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Child maltreatment (CM) is a pervasive social problem in the United States that occurs across all socioeconomic, religious, cultural, and ethnic groups (United States Department of Health & Human Services, 2012). Though the causes of CM are complex and involve multiple factors, researchers have found that specific parenting factors are associated with child maltreatment, including harsh discipline practices, hostile attributions, difficulties with emotion regulation, maternal substance abuse, and a parent's personal history of child abuse (Azar, 2002; Belsky & Jaffee, 2006; Mayes & Truman, 2002). Improving parenting through parenting programs is one of the most important approaches to reducing CM (Barth, 2009).

The primary purpose of this study was to determine the impact of a manualized, group-based, parenting program on mothers in residential treatment for substance abuse. The Circle of Security-Parenting[®] (COS-P; Cooper, Hoffman, & Powell, 2009) program is a shortened, eight-session version of the original Circle of Security[®] protocol that has shown efficacy in working with parents at risk for CM (Cassidy et al., 2010; Hoffman, Marvin, Cooper, & Powell, 2006). A secondary purpose involved assessing if COS-P can positively impact three measurable social information processing and attachment variables associated with child maltreatment: (a) hostile attributions (b) emotion regulation, and (c) harsh discipline practices.

Utilizing action research methodology, qualitative, quantitative, and secondary data sets were gathered. Quantitative results indicated that some participants who attended the majority of COS-P sessions showed reliable change (Jacobson & Truax, 1991) from pretest to posttest, with the largest changes in parental discipline practices. Qualitatively, COS-P participants, staff members at the agency, and the group researcher/facilitator overwhelmingly commented positively on the new curriculum, with the only noted weakness being more time needed with the curriculum. Further, a review of the participant's background demographic data indicated that participants who had reliable change (i.e., change that was larger than measurement error) on their dependent pretest to posttest measures differed from those who did not have reliable change on their measures on three background variables: education level, self-reported personal history of CM, and time in residential treatment. Results indicate that COS-P is a well-received, engaging program that may impact the parenting factors associated with CM for mothers in residential substance abuse treatment.

THE IMPACT OF THE CIRCLE OF SECURITY-PARENTING[®]
PROGRAM ON MOTHERS IN RESIDENTIAL
SUBSTANCE ABUSE TREATMENT: AN
ACTION RESEARCH STUDY

by

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APPROVAL PAGE

This dissertation, written by Gretta Evette Horton, has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

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Strange is our situation here upon earth. Each of us comes for a short visit, not knowing why, yet sometimes seeming to a divine purpose. From the standpoint of daily life, however, there is one thing we do know: That we are here for the sake of others . . . for the countless unknown souls with whose fate we are connected by a bond of sympathy. Many times a day, I realize how much my outer and inner life is built upon the labors of people, both living and dead, and how earnestly I must exert myself in order to give in return as much as I have received.

~Albert Einstein

I too find myself at this strange place: the end of a long journey. I began the doctoral journey only knowing that I wanted to refine, expand, and share my professional passion for helping children and families. I had no idea how much guidance and support would be needed to complete the journey.

My University of North Carolina at Greensboro dissertation chair, Dr. Christine Murray, provided the necessary structure and constant support needed to tame my distractible writing demons. Dr. Craig Cashwell offered calm and reflective guidance throughout the process. Dr. Esther Leerkes opened my eyes to parenting research with children and families. Dr. John Willse expanded my mind to multidimensional space and stuck with me even though I wound up doing a small sample study and never entered multidimensional space. The other professors, doctoral students, and my cohort in the Counseling and Counselor Education program also supplied kindness, food, and shelter along my journey.

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CHAPTER I

INTRODUCTION

Child Maltreatment

Child maltreatment (CM) is a pervasive social problem in the United States that occurs across all socioeconomic, religious, cultural, and ethnic groups (United States Department of Health & Human Services, 2012). In 2010, approximately 3.3 million child abuse reports were made involving an estimated 5.9 million children (USDHHS, 2012). Further, it is clear that not all incidents are reported (Matthews & Kenny, 2008), so the actual number of maltreatment cases likely is much higher (Azar, 2002). The majority of child abuse victims are under the age of four, and younger children are also at the highest risk of fatality from child abuse (USDHHS, 2012). These staggering numbers have prompted some organizations to call CM a public health crisis and priority (American Psychological Association, 2011; Zimmerman & Mercy, 2010).

Further, researchers have documented the negative impact of CM on a child's development (Centers for Disease Control & Prevention, 2008). Goldman, Salus, Wolcott, and Kennedy (2003) summarized the effects that are commonly associated with CM in three broad overlapping categories: health and physical effects; cognitive development and academic achievement effects; and emotional, social and behavioral effects. The health and physical consequences of CM can include shaken baby syndrome, impaired brain development, and higher incidences of health risks such as,

obesity, eating disorders, and smoking (Child Welfare Information Gateway, 2008a). In the cognitive development and academic achievement category, researchers have found that children exposed to maltreatment generally perform more poorly and have lagging language development and academic achievement compared to their non-maltreated peers (Child Welfare Information Gateway, 2008a). The social-emotional and behavioral consequences of CM also are well documented. Children who have been maltreated may have delayed social-emotional development, increased incidence of mental health disorders and substance abuse, and more aggressive behaviors (Goldman, Salus, Wolcott, & Kennedy, 2003).

Parents make up the majority (80%) of CM perpetrators (USDHHS, 2012). Accordingly, many prevention and intervention programs are directed toward parents (Child Welfare Information Gateway, 2011a). In fact, the most important approach to child abuse prevention is to improve parenting (Barth, 2009). One of the primary vehicles for this effort is parenting programs. The local judicial systems and departments of social services, which serve and protect children at risk for CM, often refer parents to parenting programs to see if the parents can improve their parenting skills before permanent decisions about child placements are made (California Evidence-Based Clearinghouse for Child Welfare, 2012). Given that there are approximately 3.3 million reports of child abuse a year in the United States, the majority of which involve the child's parent (USDHHS, 2012), there are a large number of parents who might benefit from parenting programs.

The purpose of the current study is to evaluate the impact of a group-based parenting program, the Circle of Security-Parenting[®] (COS-P; Cooper, Hoffman, & Powell, 2009), on mothers in residential substance abuse treatment. Using action research methodology, this study (a) explores COS-P's impact on the mothers' attributions, discipline practices, and emotional regulation and (b) examines how the mothers, staff, and facilitator perceive COS-P's effectiveness. Viewed through the Social Information Processing model, COS-P holds promise at impacting these risk factors; however, there have been no published studies to date on this eight-session program.

Parenting Factors Associated with Child Maltreatment (CM)

CM is a complex social issue with multiple determinants (Belsky & Jaffee, 2006). It occurs within cultural, community, family, and parental contexts (Harrington & Dubowitz, 1999). Since parents are the main perpetrators of CM and are a primary contributor to a child's development, parents have received the most focus in CM prevention (Azar, 2002). This section contains a brief review of the five most frequently cited parenting factors associated with CM (Black, Heyman, & Slep, 2001; CDC, 2008).

Harsh discipline. Harsh discipline is one of the most documented parenting factors associated with CM (Black et al., 2001; Farc, Crouch, Skowronski, & Milner, 2008). Harsh discipline practices are parental behaviors, such as spanking, yelling, screaming, and threatening, in response to perceived child misbehavior (Bailey, Hill, Oesterle, & Hawkins, 2009). Researchers have documented that harsh parental discipline is associated with CM and future increased externalizing and internalizing behaviors in children (McKee et al., 2007; Prinzie, Onghena, & Hellinckx, 2007). Accordingly, most

parenting programs focus on teaching parents more positive discipline strategies for managing child behavior (Barth, 2009).

Hostile attributions. Hostile attributions represent another factor seen in parents at risk for CM. Attributions are defined in this study as the causal beliefs a parent has about why their children are behaving in a specific way (Bugenthal & Happaney, 2002). Though attributions can be categorized in many ways (Mah & Johnson, 2008), this study groups attributions into two types: neutral and hostile (Black et al., 2001). These two types can be illustrated with the example of a young child may running down a store aisle away from his or her mother. One mother might believe the child is running away because he or she is curious about something shiny on a nearby aisle shelf (neutral attribution). On the other hand, another mother may believe the child is running away because he or she is trying to make the parent mad (hostile attribution).

There is a plethora of research on the relationship between parental hostile attributions and child physical abuse (Berlin, Dodge, & Reznick, 2011; Bugenthal & Happaney, 2002; Bugental & Schwartz, 2009). Much like the research on harsh discipline, parents at risk for child abuse have more hostile attributions than parents who are at lower risk for child abuse (Montes, de Paul, & Milner, 2001). Intriguingly, even early hostile maternal attributions in parents of newborn infants have been able to predict later CM (Bugental & Happaney, 2004), indicating that there is something in the parents' attributions prior to child misbehavior that is associated with harsh parenting and later CM.

Emotion regulation. Emotional regulation has not received as much attention in the CM literature as the two parent factors discussed above, yet existing evidence suggests that parents who use harsh discipline practices may not be skilled at regulating their affect. Frodi and Lamb (1980) found that parents who have maltreated their children show greater physiological arousal than non-abusing parents in response to videotapes of infants crying. These findings have been confirmed by other researcher using other bio-markers for emotion regulation, including cortisol reactivity (Lorber & O’Leary, 2005; Martorell & Bugental, 2006). Further, because CM often leads to children with poor emotion regulation skills, there may be an intergenerational transmission of deficient emotion regulation skills from parent to child (Azar, 2002; Belsky & Jaffee, 2006; Sameroff, 2009).

Parental history of child maltreatment. While researchers have found that not all parents who experienced abuse when they were children go on to commit maltreatment with their own children, parents with a history of CM are at a higher risk for later CM with their own children (Appleyard, Berlin, Rosanbalm, & Dodge, 2011; Egeland, Jacobvitz, & Sroufe, 1988). Many studies have documented a higher incidence of a past history of CM in mothers who have been substantiated for CM with their own children, as compared diverse community samples and parents who have not been substantiated for CM (Coohey & Braun, 1997; Newcomb & Locke, 2001; Whipple & Webster-Stratton, 1991).

Substance abuse. Substance abuse is implicated in one- to two- thirds of the CM cases in the child welfare system (Goldman et al., 2003) and maternal substance abuse,

in particular, is one of the most common factors associated with CM (Suchman, Pajulo, DeCoste, & Mayes, 2006). Laughinghouse (2009) found that mothers who abuse substances have higher incidences of hostile attributions and inappropriate expectations of child behavior. Due to the behavioral manifestations of substance abuse, such as erratic and impaired behavior, and poor awareness and sensitivity, mothers who abuse substances frequently create repeated disruptions in their parenting behaviors (Mayes & Truman, 2002), which have been shown to have a negative effect on the parent-child relationship (Pajulo, Suchman, Kalland, & Mayes, 2006). This is important because the parent-child relationship is one of the primary influences on a child's future developmental outcomes (Clark, Tluczek, & Brown, 2008).

Because attachment theory is the predominant and most well researched theory of the parent-child relationship, Suchman et al. (2006) call for an attachment-based approach to parenting programs for parents with substance abuse issues to address these multi-faceted, relationship disruptions. An attachment- based approach is one that is grounded in attachment theory and has goals of improving the parent-child attachment relationship.

Summary. Parenting risk factors are one of the main foci for interventions in CM. Harsh discipline, hostile attributions, poor emotion regulation, parents with a personal history of CM, and parental substance abuse are among the most common parenting factors associated with CM (Goldman et al., 2003). Further, these parenting risk factors often create a pattern of interactions that negatively influence the parent-child relationship (CDC, 2009; Milner, 2003). Mothers in residential substance abuse

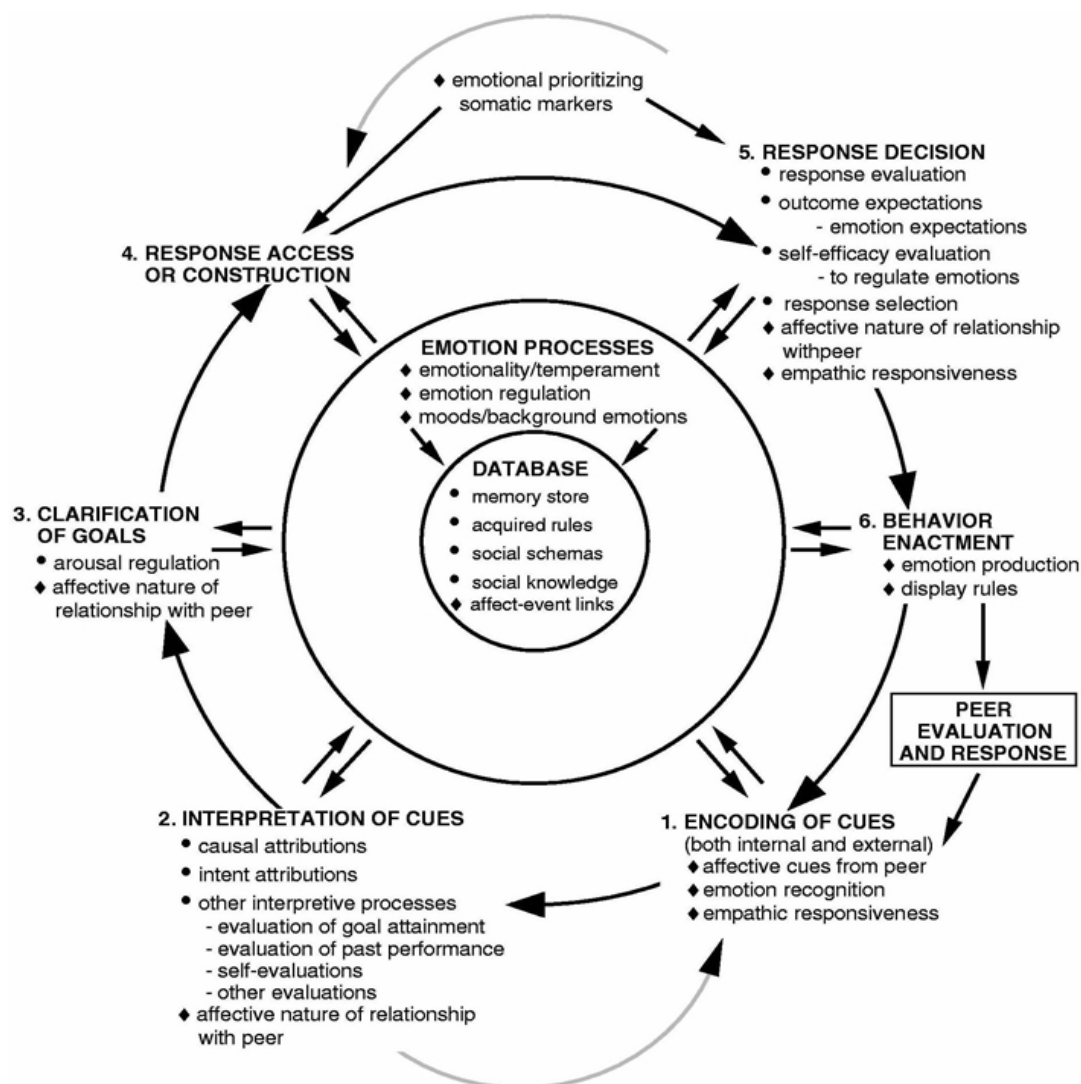
treatment are making the effort to control the substance abuse parenting risk factor, yet they often still carry the negative patterns of parent-child interactions that include harsh discipline, hostile attributions, and poor emotion regulation that began prior to their treatment (Mayes & Truman, 2002). Additionally, women with substance abuse disorders frequently have a personal history of CM (Medrano, Zule, Hatch, & Desmond, 1999; Najavits, 2009). Thus, children whose mothers have substance abuse disorders are particularly at risk for CM. One theoretical model that helps explain how these parenting factors dynamically interact is the Social Information Processing model.

Social Information Processing (SIP) Model for Child Maltreatment

A common theoretical model used to explain how a parent's history, emotional, and cognitive processes impact their behavior is the SIP model. Milner (1993; 2003) developed the SIP model of child physical abuse to help explain the cognitive and behavioral processes behind child physical maltreatment. SIP also has been used to explain aggressive social behavior in other contexts. For example, during the same time period that Milner (1993) developed his SIP model of CM, Crick and Dodge (1994) created a SIP model to help explain the cognitive, social, and emotional processes in children's peer interactions. More recently, Dodge (2011) discussed SIP patterns in intimate partner violence, and Fontaine (2010) used a SIP model to explain antisocial behavior in youth. Though these models have some variation, they are similar in that they all take social interactions that are happening in real-time and break them down into sequential cognitive and behavioral steps (Dodge, 2011; Milner, 2003). This allows

researchers to understand and explore multiple cognitive, behavioral, and emotional aspects of these interactions (Milner, 2003).

This study will use Lemerise and Arsenio's (2000) SIP model to frame an evaluation of a group-based parenting program, Circle of Security-Parenting[®], with mothers at risk for CM. Though Lemerise and Arsenio's (2000) model described children's peer interactions, several researchers (Leerkes, 2010; McElwain, Booth-LaForce, Lansford, Wu, & Dyer, 2008; Milner, 2003) have used this model to explain parent-child SIP. Briefly, this model consists of six steps around a concentric circle of a social interaction (see Figure 1). Based on Crick and Dodge's (1994) model, the circle begins with the encoding of cues (1), and then moves on to the interpretation of cues (2). It is in this second phase of a social interaction that attributions and interpretations impact the socialization process. The next steps include clarification of goals (3), response construction (4), response decision (5), and finally, the parenting behavior (6). All six steps around the circle are influenced by an inner circle database that holds memory, history, rules, pre-existing schemas and social knowledge (Crick & Dodge, 1994). Basing their addition on recent neurophysiological research, Lemerise and Arsenio's (2000) model graphically added emotional processes. They argue that emotional processes are in the center of the circle, surrounding the database processes, and influence all six of the socialization steps. Just like the database, the emotional processes are continually, bi-directionally interacting in all 6 steps around the circle and impact information in the database.



Items marked with filled circles are from the Crick and Dodge (1994) social information processing model. Items marked with filled diamonds present emotion processes added to the model. Reprinted with permission.

Figure 1. Lemerise and Arsenio's 2000 Social Information Processing (SIP) Model.

Using the brief example from the earlier section on hostile attributions, the SIP processes explain the interaction between the mother and her child in the store. In step 1, the mother encodes cues, such as watching her child running down the store aisle. In step 2, the mother interprets why her child is running away. As described above, the mother's

interpretation is that the child is running down the aisle because he or she is curious about something shiny on a nearby shelf (neutral attribution). In step 3, she considers goals, such as getting finished with her shopping or seeing what is intriguing the child. In step 4, the mother conjures possible responses, such as running to catch the child or following the child to see what he or she is interested in seeing. In step 5, a decision is made. She reflects that there is no one in the store and they have plenty of time before nap. Therefore, she'll leisurely follow the child to see what he or she is interested in seeing. In step 6, she enacts this decision. Lemerise and Arsenio (2000) posit that emotional processes impact how these steps are thought about and enacted. For example, if the mother was stressed, this was the 7th time the child has run away (frustration), or they were late for another appointment (anxiety), the mother's SIP responses might be different. Similarly, if the database was triggered during this event, the mother's SIP might lead to another behavioral event. For example, if the mother had been abducted as a child (database), she might run and grab the child out of a memory from her past history of abduction.

The dependent variables chosen for this study are grounded in Lemerise and Arsenio's (2000) model, namely attributions, emotional regulation, and parental discipline practices. These three parenting factors represent the parenting factors linked to maladaptive SIP, risk factors for CM, and are all listed as goals of COS-P (Cooper et al., 2009).

Parenting Programs for Child Maltreatment Prevention

Parenting programs are among the most important treatment modalities to address CM (Child Welfare Information Gateway, 2011b). Researchers have found that both individual and group parenting programs are effective at reducing CM (CDC, 2009; Lundahl, Nimer, & Parsons, 2006). For the purpose of the current study, however, the focus will be on group parenting programs designed to improve parenting practices, positive outcomes for both parents and children, and can address an child age range from birth to age 11 (Barlow & Stewart-Brown, 2000; CDC, 2009; Child Welfare Information Gateway, 2008b; Lundahl et al., 2006). Since the majority of child abuse reports involve children under the age of four, many researchers are particularly interested in parenting programs that can address the parents of young children ages birth to five (USDHHS, 2012). During this important developmental time period, practitioners use manualized, group-based parenting programs to translate and integrate the most up-to-date research on healthy parent-child relationships, positive discipline practices, and CM prevention (Barth, 2009; CDC, 2008).

Group-based programs may be beneficial to parents at risk for CM. First, parents at risk for CM have been found to be socially isolated (Azar, 1997, 2002) and in need of social support (CDC, 2008). Social support can buffer parental stress which is often high in families at risk for CM (Milner & Dopke, 1997). Second, group-based programs have the added advantage of being cost effective as compared to individual-only treatments (Samuelson, 2010). Third, group treatment is the primary format in many residential substance abuse programs (Ashley, Marsden, & Brady, 2003). Residents meet daily in

groups for the first several months of their treatment (North Carolina Department of Health & Human Services, 2012). In residential substance abuse treatment, group instruction teaches the basic concepts and allows for more individualized reinforcement during private counseling sessions.

There have been several meta-analyses of group-based parenting programs (CDC, 2009; Lundahl et al., 2006) and literature reviews of best practices (Caspe & Lopez, 2006; Johnson et al., 2008; Small & Mather, 2009). There are also Internet-based registries that list the parenting programs with the strongest evidence-based support (California Evidence-Based Clearinghouse for Child Welfare, 2012; CDC, 2009; Child Welfare Information Gateway, 2008b; Small & Mather, 2009). The author searched the above registries and studies to find group-based parenting programs that showed efficacy in CM prevention with high risk populations, fit the definition above, were directed at parents of children ages birth to 11, and, as suggested by Suchman et al. (2006), had a goal of improving the parent-child relationship via an attachment based approach. There are several individualized attachment-based interventions that have shown efficacy with families at risk for CM (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003; Dozier, et al., 2009; Lieberman, Ippen, & Van Horn, 2006); however, they are not group-based. Circle of Security-Parenting[®] (Cooper et al., 2009) is the only group-based attachment program currently available in a manualized format.

Circle of Security-Parenting[®] (COS-P). COS-P (Cooper et al., 2009) is a new, shorter version of the original 20-week Circle of Security[®] intervention. Written and designed by eminent attachment theory practitioners and researchers, the Circle of

Security model integrates 60 years of attachment research and summarizes it for parents in easy to understand diagrams (Cooper et al., 2009; Marvin & Whelan, 2009); therefore, Circle of Security protocol is both an intervention and a heuristic framework to help parents understand their child's relationship needs for a *secure base* in which to explore their worlds and a *safe haven* in times of distress (Hoffman et al., 2006; Zeneah, 2012). The Circle of Security model has broad goals of teaching the basics of the parent-child attachment relationship and helping parents observe, reflect, and understand their child's attachment behaviors (Cooper et al., 2005). It also has relationship-specific goals of improving parent emotional regulation and helping parents make an "empathic shift from negative attributions to inferences of need" (Whelan, 2011, p. 12).

The original Circle of Security 20-week intervention has individualized assessment and treatment planning, as well as individual and group sessions (Zeneah, 2012). Parent-child interactions are videotaped prior to the start of the intervention, and then individual segments are shown throughout the group sessions (Hoffman et al., 2006). Researchers have examined the 20-week intervention both qualitatively (Lee, Griffiths, Glossop, & Eapen, 2010; Marvin, Cooper, Hoffman, & Powell, 2002; Page & Cain, 2009) and quantitatively (Cassidy et al., 2010; Hoffman et al., 2006), with results generally showing that children moved to more of a secure attachment relationship with their caregivers and parents increased their level of sensitivity.

Recently, some of the Circle of Security authors condensed the 20-session intervention to a more cost-effective, manualized, eight-session program called COS-P (Cooper et al., 2009). The shorter model can be used individually or in groups and uses a

DVD with examples of parent-child attachment interactions (Cooper et al., 2009). To date, researchers have not published any studies utilizing the shorter model; however, several studies on COS-P are in progress (B. Powell, personal communication, April 2012). The eight-session model may have several advantages over the 20-session model. Shorter models may help with retention of group members, especially in those populations where retention is a big concern (Samuelson, 2010). Although confirmatory evidence is lacking, some researchers suggest that shorter attachment-based programs (16 sessions or less) may be as effective as longer models at improving the parent-child relationship (Berlin, 2005; Cassidy, Woodhouse, Sherman, Stupica, & Lejuez, 2011; Dozier et al., 2009).

Integrating SIP with an attachment-based program. At times, researchers have studied the parenting risk factors associated with CM through SIP models, while parent-child relationship studies often were viewed through the lens of attachment theory. Very recently, however, researchers have noted the overlap between constructs in these two theories. Dykas, Ehrlich, and Cassidy (2011) suggest that “a parent’s attachment influences the SIP in their child and a parent’s social information processing influences their child’s attachment” (Dykas et al., 2011, p. 82). They propose several possible models of the integration between these two theories, but much more research is needed to detangle the processes. In the present study, the SIP model will provide a framework for the integration of attachment theory and SIP theory in CM prevention. Though the original attachment-based Circle of Security intervention has shown efficacy in increasing sensitivity and attachment security in families at risk for maltreatment,

researchers have not evaluated the eight-session COS-P model on the three potentially modifiable SIP factors frequently seen in families at risk for CM, namely, hostile attributions, poor emotional regulation, and harsh discipline practices.

Statement of the Problem

CM in the United States is considered a critical public health issue that impacts millions of children and families a year and costs the US billions of dollars in direct and indirect costs (Child Welfare Information Gateway, 2011a; USDHHS, 2012). Parents are the primary perpetrators of CM (USDHHS, 2012), so finding intervention programs that are effective with parents at risk for CM is crucial.

Maternal substance abuse is one of the most common factors associated with CM (Suchman et al., 2006). Often, mothers who abuse substances have higher incidences of hostile attributions and inappropriate expectations of child behavior (Laughinghouse, 2009) and have a prior personal history of CM (Najavits, 2009). The combination of these factors has been shown to have a negative effect on the mother-child relationship (Pajulo et al., 2006). To address these parenting concerns, researchers have called for an attachment-based approach to parenting programs with maternal substance abusers (Suchman et al., 2006). Though several individual attachment-based programs exist, progress has been slow in disseminating and evaluating group-based attachment programs. Only recently has a manualized, group-based, attachment program become available (Cooper et al., 2009).

Purpose of the Study

The primary purpose of this study is to determine the impact of COS-P on mothers in residential treatment for substance abuse. A secondary purpose involves assessing if COS-P can (a) change hostile parental attributions to more positive attributions about child behaviors, (b) change harsh parenting discipline practices to more positive discipline practices, and (c) improve emotion regulation. Since there are no published studies to date, this study will serve as a starting point for the empirical evaluation of the COS-P program. Using action research methodology, a mix of qualitative, quantitative, and secondary data sets will be collected to provide an in depth analysis of the impact of the COS-P program. Given that SIP has been theorized to mediate the intergenerational transmission of the attachment relationship (Dykas et al., 2011), the study will also add to the literature by grounding the study in a SIP theoretical model to assess an attachment-based parenting program.

Need for the Study

A review of the relevant research in CM and parenting programs reveals a number of gaps in the literature. First, no studies were located that combined an attachment-based program with a SIP model to impact parental risk factors for CM. Given that (a) the Centers for Disease Control (2008) has called for more parenting programs in CM prevention to focus on parent-child relationship issues, (b) maternal substance abusers often have difficulty parenting and building relationships with their children (Pajulo et al., 2006), and (c) the parent-child attachment relationship is one of the most important

predictors of a child's development (Zeneah, 2012), researchers should study parenting programs that are grounded in attachment theory as a means to prevent CM.

Second, despite some evidence of the original Circle of Security intervention's ability to increase parent sensitivity and child attachment security, no studies have been conducted on the shorter COS-P program. Therefore, this study will add to the attachment intervention literature by evaluating a shorter and potentially more cost-effective program. Further, this study will begin the empirical evaluation of COS-P with mothers at risk for CM.

Third, the Circle of Security authors state that one of the goals of the model is to help parents change hostile attributions to more neutral inferences of need (Whelan, 2011). To date, however, researchers have not measured changes in parent attributions based on a Circle of Security protocol. Given that attributions have been found to impact parental discipline and increase risk for CM (Berlin, Appleyard, & Dodge., 2011; Black et al., 2001; Farc et al., 2008), additional research is needed to ascertain if the COS-P program is effective at reducing this risk factor.

This study will add to the literature on attachment-based programs generally, and COS-P specifically. Though several trials are in progress, there are currently no published studies on the shorter eight-session COS-P program (Cooper et al., 2009; B. Powell, personal communication, April 2012). If this shorter program proves successful for mothers who are at risk for CM, particularly mothers with substance abuse issues, counselors can utilize this group-based attachment program in residential and outpatient

treatment settings nationwide to address the parenting issues frequently seen in this population, and potentially prevent future CM.

Research Questions

In this study, the main research question is, “How does COS- P impact mothers who are in yearlong residential treatment for substance abuse?” Beyond this overarching question, several sub-questions are proposed. These include:

1. How does COS-P impact the mothers’ emotion regulation?
2. How does COS-P impact mothers’ thoughts about the causes of their children’s behaviors?
3. How does COS-P impact the mothers’ discipline practices?
4. How do the mothers’ backgrounds, as derived from the mothers’ admission evaluations, impact their assessment of the COS-P program?
5. What do the mothers feel are the strengths or weaknesses of the COS-P program?
6. How do staff members perceive the impact of the COS-P program on their work with the mothers in the program?
7. How does the COS-P group facilitator perceive the impact of the program on the mothers and her work as a clinician?

Action research methodology was used to analyze the qualitative, quantitative, and secondary data sets and provide an in depth examination of the impact of COS-P on the participants in the study.

Definition of Terms

The following definitions serve to explain the key constructs in this study:

Circle of Security-Parenting® (*COS-P*) is an eight-session, group-based parenting program (Cooper et al., 2009). *COS-P* is grounded in attachment theory and has goals of helping parents understand attachment theory, attachment style variations, and sensitive responding to child emotional and behavioral cues. A primary goal is to help parents make an “empathic shift from negative attributions to more neutral inferences of need” (Whelan, 2011, p. 12). *COS-P* can be used individually or in groups. To date, it is the only group-based parenting training program grounded in attachment theory.

Externalizing behaviors are disruptive or harmful actions a person directs outwardly toward others, such as in aggressive acts toward others and delinquency.

Internalizing behaviors are harmful actions a person directs inwardly, such as depression, eating disorders, substance abuse, and self-injury.

Parents are individuals who have the primary responsibility of raising a child, whether they are a biological or adoptive caregiver or a legal guardian.

Parental attributions are defined as “interpretive filters through which meaning is assigned to the behaviors and characteristics of children and to the nature of the parent child relationship” (Bugental, New, Johnston, & Silvester, 1998, p. 460). Parental attributions were measured using the Parent Attribution Test (PAT; Bugental, 2011).

Parent programs are standardized interventions designed to improve parenting practices that promote protective factors and positive outcomes for both parents and

children (Barlow & Stewart-Brown, 2000; CDC, 2009; Child Welfare Information Gateway, 2008b; Lundahl et al., 2006).

Parenting discipline practices are the tangible, everyday child-rearing behaviors parents demonstrate when managing their children's behaviors (Bornstein, Hahn, & Haynes, 2011). In this study, parent discipline practices were measured using the Parenting Scale (Arnold et al., 1993).

Parent emotional regulation describes a parent's ability to modulate, inhibit and enhance emotional experiences and expressions (Calkins & Hill, 2007). In this study, parental emotional regulation was measured with the Emotion Regulation Questionnaire (Gross & John, 2003).

Social information processing is the set of operations an individual employs to make sense of, and respond in, complex social interactions (Crick & Dodge, 1994).

Social Information Processing Model is a heuristic model that helps researchers to understand the step-by-step operations an individual uses in complex social interactions (Fontaine, 2010). This model breaks down the interpersonal processes to allow researchers to inspect the step by step operations involved complex social interactions and help determine how these processes lead to individual difference in behavioral outcomes of interpersonal interactions. In particular, these models help explain the differences between aggressive and non-aggressive social interactions (Crick & Dodge, 1994).

Organization of the Study

This study is organized in five chapters. Chapter I provided an overview of the primary constructs which include child maltreatment, the parenting factors associated with child maltreatment, and the SIP model and its overlap with constructs from attachment theory. Chapter II provides a review of the relevant literature in these areas. Chapter III explains the action research methodology of the study. Chapter IV explores both the quantitative and qualitative results of the study. Chapter V discusses the research and clinical implications of the study results.

CHAPTER II

LITERATURE REVIEW

Chapter I presented the rationale for a research study in which a group-based parenting program will be evaluated with women in residential substance abuse treatment. The purpose of this chapter is to review the relevant scholarly literature. First, CM and the parenting risk factors that influence CM will be explored. Second, the literature on the SIP model which grounds this study are reviewed, including the integration of attachment theory and SIP constructs. Third, the literature on group-based parenting programs to reduce CM is examined. The chapter concludes with a critical review of the literature on the COS-P program.

Child Maltreatment

CM has been called a public health priority (APA, 2011; Zimmerman & Mercy, 2010). In 2010, approximately 3.3 million child abuse reports were made involving an estimated 5.9 million children (USDHHS, 2012). Researchers estimate that the lifetime economic costs of CM in the US in 2008 were over \$120 billion dollars which includes health, legal, and medical costs, as well as losses in productivity over the lifetime (Fang, Brown, Florence, & Mercy, 2012). Further, Leeb, Lewis, and Zolotor (2011) estimated that 50% to 90% of CM cases are never reported, so the actual number of CM cases and costs are likely much higher. This section reviews the definition, mental health consequences, causes, and parenting factors frequently associated with CM.

Definition of Child Maltreatment

Although published definitions vary, CM has generally been defined as any act by a parent or caregiver that causes harm, potential for harm, or threat of harm to a child (Leeb, Lewis, & Zolotor, 2011). Often, these acts are grouped into two categories: acts of commission and acts of omission. Acts of commission are deliberate and intentional actions by parents or caregivers that cause harm, such as in the case of child abuse, sexual abuse, and psychological/emotional abuse. In contrast, acts of omission are described as the failure of parents and caregivers to provide for a child's basic needs, as in cases of child neglect (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008).

Although there are multiple forms of CM, the primary focus of this study is on child physical abuse. As reviewed later in this chapter, specific parenting factors are associated with child physical abuse, and this study is grounded in a model frequently used to explain aggressive parent-child interactions (Cicchetti & Toth, 2005; Milner, 2003). Therefore, when using the term CM, this author is referring primarily to child physical abuse.

Mental Health Consequences of Child Maltreatment

Determining the mental health consequences of CM is difficult for several reasons. First, there are multiple types of CM, and often children experience more than one type of CM. For example, Claussen and Crittenden (1991) found that physical maltreatment is frequently associated with psychological maltreatment as well. Second, there are multiple factors implicated in CM, such as poverty, stress, single parenting, and lack of social support (Azar, 2002). This creates difficulty in determining which factors

are associated with which mental health consequences (Goldman et al., 2003). Third, CM victims often are very young and are developing in numerous, overlapping, domains. For example, CM has been found to impact neurological development, which then can impair physical, cognitive, social, and emotional development, so the mental health consequences can vary greatly depending the age and stage of development the child was when the CM happened, how long the maltreatment continued, and the severity and type of CM (Leeb et al., 2011; Cicchetti & Toth, 2005).

Despite these significant complexities, it is well documented in the literature that CM has short- and long-term mental health consequences for victims (Cicchetti & Toth, 2005). In the short term, researchers have found a high prevalence of mental health disorders and developmental delays in children who have experienced CM victimization (Cooper, Banghart, & Aratani, 2010). Researchers have found increased depression, anxiety, aggressiveness, insecure attachments, and attention difficulties in children who have been victims of CM (Goldman, 2003). For adults who experienced CM as children, long-term consequences may include depression, anxiety, eating disorders, substance abuse, and suicide attempts (Child Welfare Information Gateway, 2008a). Given the breadth of these short- and long-term consequences and their huge costs to society, efforts to understand the causes of CM have been undertaken by numerous researchers from a variety of disciplines.

Causes of Child Maltreatment

Though earlier models suggested a linear, single variable model of CM, researchers have now determined that CM is caused by a complex interplay of child,

parent, family, environment, and other contextual risk and protective factors (Azar, 2002; Goldman et al., 2003). Researchers frequently view CM prevention in the context of decreasing the risk factors and increasing protective factors that have been empirically associated with CM (CDC, 2008).

Usually determined by multiple longitudinal studies, risk factors are those events that increase the probability of a particular outcome (Burt, 2001). In the child category, children who are under the age of five, disabled, or have difficult temperaments are at increased risk for CM (Goldman et al., 2003). In the environment category, factors such as poverty and unemployment are associated with CM. Family risk factors include social isolation, domestic violence, and parenting stress (CDC, 2008).

Conversely, protective factors are events that increase the likelihood of positive outcome and buffer against the impact of negative events (Child Welfare Information Gateway, 2012). In the family category, the CDC (2008) lists a supportive family environment and social network as two scientifically proven protective factors in CM. Child category protective factors include good health and social skills, easy temperament, and having above-average intelligence, hobbies, or interests; while, environmental category protective factors include fewer years in poverty, diminished material hardship, good schools, access to health care and social services, and adequate housing (Child Welfare Information Gateway, 2008a).

It is beyond the scope of this chapter to comprehensively review the extensive literature on the causes of CM and the corresponding risk and protective influences. Although it is extremely important for practitioners who work in the area of CM to

understand all the risk factors, counselors who work with parents at risk for CM are called upon by local judicial systems and departments of social services to improve the parenting skills in these families before permanent decisions about child placements are made (California Evidence-Based Clearinghouse for Child Welfare, 2012). Since this study is explicitly interested in understanding and impacting the parenting factors associated with CM, the next section will focus on an expanded review of these parenting risk factors.

Parenting Risk Factors Associated with Child Maltreatment

Since parents are 80% of the perpetrators of documented cases CM, researchers have spent a great deal of time trying to understand what makes a parent at risk for CM (USDHHS, 2012). Repeatedly, researchers have found several specific parenting characteristics associated with an increased risk of perpetrating CM: hostile attributions, difficulties managing emotional arousal, harsh discipline practices, parental history of maltreatment, and substance abuse (Azar, 2002; Goldman, 2003). Following hundreds of studies on the topic, researchers have thoroughly reviewed and summarized the parenting factors extant in the CM literature (e.g., Black et al., 2001; Milner, 1997; USDHHS, 2012). What follows below is a brief review of the historical studies that revealed the differences in parenting risk factors between parents with and without a history of CM, as well as, a number of newer studies that further elucidate association between the parenting risk factors and CM.

Harsh discipline. One of the most frequently cited parenting factors associated with CM is harsh discipline (USDHHS, 2012). Harsh discipline practices are parental

behaviors, such as spanking, yelling, screaming, and threatening, in response to perceived child misbehavior (Bailey, Hill, Oesterle, & Hawkins, 2009). The construct of harsh discipline goes by many other names in the literature, such as physical discipline, over-reactive discipline, and power assertive discipline.

Numerous studies have looked at the difference between the discipline practices of maltreating and non-maltreating parents (Black et al., 2001). As one example of these studies, Whipple and Webster-Stratton (1991) recruited 123 families who had children with severe behavior problems and then separated the parents into two groups: one group had a history of CM and the other did not. The authors used self-report measures and independent observations by trained researchers. Using the Parent Daily Report (PDR), both fathers and mothers self-reported spanking their children more often in a two week period than did the parents in the non-abusive group ($t = -1.83$ for mothers, and $t = -2.38$ for fathers). From the observational data, researchers found abusive mothers used more criticism and fathers used more spankings than their non-maltreating comparison groups (Whipple & Webster-Stratton, 1991). These findings have been replicated in the literature in numerous studies, with both mother and father samples (Black et al., 2001; Hemenway, Solnick, & Carter, 1994; Rodriguez, 2010; Scannapieco & Connell-Carrick, 2005; Trickett & Kuczynski, 1986).

Hostile attributions. Attributions can be defined as “interpretive filters through which meaning is assigned to the behaviors and characteristics of children and to the nature of the parent child relationship” (Bugental et al., 1998, p. 460). Several attribution models have been postulated and researched, each defining and measuring attributions in

unique ways (Bugental et al., 1998). This adds to the difficulty of understanding parental attributions, because the various theoretical models have differing names for the construct of attributions, such as appraisals, perceptions, beliefs, attitudes, and representations.

Some researchers describe parental attributions as the parent inferring that the child has either negative/hostile, neutral, or positive intentions for his or her behaviors (Feldman & Reznick, 1996). Other researchers view parental attributions as cognitions about who has control in difficult or ambiguous caregiving situations (Bugental, Blue, & Cruzcosa, 1989). For example, parents who do not feel in control of unsuccessful parent-child interactions can be said to have low perceived control over caregiving failure and thereby the child is in control of the parent-child interaction failure (Bugental et al., 1989). In this model, attributions are described as the amount of power or control in an interaction attributed to the parent or to the child. The more power attributed to a child in an interaction, the less power a parent feels and the more hostile their attributions toward the child (Bugental & Happaney, 2004).

Researchers have found that attributions are part of a complex human socialization process and that hostile attributions are associated with aggressive parent behaviors, such as harsh, over-reactive discipline and child physical abuse (Black et al., 2001). In one early study, Bauer and Twentyman (1985) matched three sets of mothers: one set had a history of substantiated child physical abuse, one had a history of substantiated child neglect, and the last was a non-maltreating comparison group ($n = 12$ in all three groups). They found that the mothers with a history of child physical abuse were more likely to ascribe hostile attributions to a variety of caregiving situations than

were the other two comparison groups [$F(2,33) = 9.27$ $p < .001$]. Many other researchers have replicated Bauer and Twentyman's (1985) original findings in studies with similar populations (Bugental et al., 1989; Rosenstein, 2008), as well as in diverse cultural populations (Graham, Weiner, Cobb, & Henderson, 2001; Nakaya & Nakaya, 2006; Pidgeon & Sanders, 2009).

Recently, researchers have found that even prenatal hostile maternal attributions predict child maltreatment. Berlin, Dodge, et al. (2011) measured attributions in a diverse, representative community sample of 499 pregnant women. The authors followed the mothers longitudinally to measure discipline practices when their child was one-and-a-half years old and to record the number of official reports of CM between birth and age two. Regarding attributions and discipline practices, the authors found that the mothers' prenatal, hostile attributions predicted their hostile parenting behaviors ($B = 0.06$, $p < .05$) and increased the likelihood that their child would be maltreated (OR = 1.26, 90% CI = 1.02, 1.56; Berlin, Dodge, et al., 2011).

Given the theoretical complexity of CM, most new studies on parental attributions and CM integrate the study of attributions with other CM parenting and contextual factors. Several of these studies will be reviewed in the upcoming section on Social Information Processing (SIP); however, one new development in the study of attributions deserves review. Researchers have primarily used parent self-report, with paper-pencil measures or video vignettes, to measure attributions. Rodriguez, Cook, and Jedrzewski (2012) explored the use of an eye tracking apparatus measure, along with self-report measures of CM, empathy, and attributions, to determine the feasibility of using the novel

eye tracking measure's ability to explore parenting factors in CM. The eye tracking analog significantly correlated with the self-report attribution measures, but it did not correlate with self-report measures of child abuse potential (Rodriguez et al., 2012). Though all the variables did not line up in the expected directions, the authors note that the significant correlation between the analog and the self-report measures of attributions indicates the need for continued exploration in this new approach.

Emotion regulation. Emotion regulation can be defined as the “the processes whereby people manage their own emotions” (Koole, 2009, p. 1). Parental emotional regulation describes a parent's ability to modulate, inhibit, and enhance emotional experiences and expressions (Calkins & Hill, 2007). Though not studied as much as the other parenting factors associated with CM (Shipman & Zeman, 2001), researchers have found that parental emotional processes play an important role in CM (Bugental, 2009).

Shipman and Zeman (2001) investigated children's and mother's emotion regulation in 25 physically maltreating and 25 non-maltreating dyads. The maltreating mothers reported less understanding of their children's emotional displays and lower use of effective strategies for helping their children cope with emotionally arousing situations than the non-maltreating mothers (Shipman & Zeman, 2001). Later, Shipman et al. (2007) conducted a similar study using an observational measure of the maltreating and non-maltreating maternal emotional processes. Like the earlier study, maltreating mothers used less effective emotional socialization strategies than the non-maltreating mothers. Many researchers also have found that maltreating parents have more self-

reported emotional distress than matched comparison groups (e.g., Bauer & Twentyman, 1985; Caliso & Milner, 1992; Milner & Robertson, 1990).

While the above mentioned studies used self-report and observational measures of emotional regulation in parents, researchers also have begun using physiological measures of affective processes (Frodi & Lamb, 1980; Kropp & Haynes, 1987). In one early study, Frodi and Lamb (1980) showed a group of abusive and non-abusive mothers a videotape of infants crying and smiling. The mothers with a history of child abuse had higher diastolic blood pressure ($r = .41$), heart rate ($r = .37$), and skin conductance amplitude ($r = .42$) in response to the videotape of the crying infant than did the non-abusive mother group. The abusive mother group even had higher blood pressure rates to the videotape of the smiling infant ($r = .41$) indicating that they might be more physiologically reactive than non-abusing mothers (Frodi & Lamb, 1980). As will be reviewed in the upcoming section on Social Information Processing (SIP), other researchers have replicated Frodi and Lamb's (1980) original findings using newer biomarkers for emotion regulation including the measurement of cortisol levels (e.g., Lorber & O'Leary, 2005; Martorell & Bugental, 2006).

Parental history of child maltreatment. While researchers have found that not all parents who experienced abuse when they were children go on to commit maltreatment with their own children, parents with a history of CM are at a higher risk for later CM with their own children (Appleyard et al., 2011; Egeland et al., 1988).

Many studies have documented a higher incidence of a past history of CM in mothers who have been substantiated for CM with their own children (Coohey & Braun,

1997; Whipple & Webster-Stratton, 1991). For example, Coohey and Braun (1997) compared mothers who had substantiated physical abuse or neglect with a community sample of mothers. The authors found that the mothers who had a documented history of CM were more likely to have been physically abused by their mothers or fathers than the community sample of mothers.

Newcomb and Locke (2001) note several limitations of studies like those reviewed above that use a documented history of CM, which yields a 'yes' or 'no' category, as the only measure of CM. The authors contend that this definition is limiting because (a) CM is a broad term and definitions vary by state, (b) CM is influenced by numerous judicial factors, and (c) it creates a dichotomous variable out of a complex social problem that is more continuous and nuanced (Newcomb & Locke, 2001).

Newcomb and Locke (2001) addressed this limitation in their own research and defined CM as a continuous variable on a Likert-type scale measure and by delineating between the different types of CM, including emotional, physical, and sexual abuse, and physical and emotional neglect, and explicitly examined the intergenerational cycle of maltreatment. Utilizing structural equation modeling, they measured the parents' self-reported history of CM and their current parenting practices in a diverse sample of 383 mothers and fathers. Though the pathways were slightly different between mothers and fathers, the authors found a moderately strong relationship between the latent factor of history of CM and the latent factor poor parenting practices.

Substance abuse. Another well documented parenting factor associated with CM is parental substance abuse. Substance abuse is implicated in at least 70% of CM cases in

the child welfare system (Goldman et al., 2003; Locke & Newcomb, 2003), and maternal substance abuse is the most common factor in cases of CM (Suchman et al., 2006).

Further, maltreated children whose parents are substance abusers remain in the child welfare system longer and have poorer outcomes than other children in the child welfare system (Mayes & Truman, 2002). Thus, the CM risks for children who have parents with substance abuse issues are substantial (Donohue, Romero, & Hill, 2006).

Some parents who abuse substances may demonstrate one or more of the other above-mentioned risk factors for CM. For example, mothers with a history of substance abuse often have hostile attributions of their children's behaviors (Laughinghouse, 2009), elevated levels of distressed emotions, including unhappiness and loneliness (Milner & Robertson, 1990), and harsh discipline practices (Child Welfare Information Gateway, 2009; Tarter, Blackson, Martin, Loeber, & Moss, 1993).

Further, researchers have found links between the parenting factors of a childhood history of CM and substance abuse. In an effort to understand the intergenerational transmission of CM and substance abuse, Appleyard et al. (2011) conducted longitudinal mediation analysis among a sample of 499 mothers and their infants to determine to what extent a mother's history of CM predicted her maternal substance use, which in turn predicted her offspring's victimization between birth and age two. Using the product of the coefficients test, the mediated paths between maternal history of physical and sexual CM to substance abuse to offspring CM were significant (Appleyard et al., 2011). The mediated path between a mother's history of child neglect to substance abuse to child victimization was not significant (Appleyard et al., 2011). Appleyard et al. (2011)

suggest that counselors assess a mother's history of child physical and sexual abuse, especially for women with substance abuse issues, as one way to intervene and prevent CM.

Summary and critique of the parenting risk factors in child maltreatment.

While acknowledging the role of other important child, family, and environmental factors, researchers have clearly documented that parenting factors play a role in CM. The above section provides a broad overview of the types of studies in the extant literature that illustrate the major parenting factors associated with CM. While this research clearly delineates these parenting factors, there is still room for clarification.

For example, the subjects of the research have remained within a somewhat narrow demographic. With a few exceptions, many of the above mentioned studies used only mothers in their sample, and generally mothers in poverty (Mayes & Truman, 2002). Much less is known about fathers and their impact on CM. Likewise there is much less known about CM in samples with parents from diverse socioeconomic backgrounds (Guterman & Lee, 2005; Mayes & Truman, 2002). Further, research continues on the delineation between the different parenting factors and the various types of CM. For example, Appleyard et al. (2011) did not find a mediated path between a mother's history of child neglect to substance abuse to child victimization. However, Hildyard and Wolfe (2007) found that mothers who had been substantiated with child neglect were much more likely to have hostile attributions for child behavior than comparison mothers. Thus, the parenting factors associated with child neglect may differ from the factors associated with child physical abuse.

Another area still being examined by researchers is how parenting factors in CM interact with other child, family, and environmental factors of CM. In their sample of 4,351 parents, Dixon, Brown, and Hamilton-Giachritsis (2009) found that what broke the cycle of CM among the parents who were themselves maltreated when they were children was financial solvency and social support, even in the presence of substance abuse, negative attributions, and other risk factors. Dixon et al.'s (2009) study is one of the first studies to attempt to incorporate all the CM risk factors with one longitudinal sample. Replication is needed to determine if the findings hold. Dixon et al.'s sample was a European sample, so it is unclear if results would be similar with a United States sample. That said, it is helpful for counselors to understand and incorporate these findings in their work with families. Knowing that financial solvency and social support are important will help remind counselors to refer families at risk for CM to local support resources. Since many of the above reviewed studies only examined the CM parenting factors and did not incorporate the other child, family, and environmental factors, it is important that the results be interpreted with caution until all the CM factor mechanisms have been elucidated.

In this study sample, several of the non-parenting factors associated with CM are being mitigated while the participants engage in a year of treatment. For example, although the mothers all have histories of substance abuse, they are all in voluntary treatment for their substance abuse. Although some of the mothers have a history of poor social support, they are in a treatment program that provides multiple sources of support, including community support and group and individual therapy. The mothers also are

provided stable housing, medical treatment, transportation, and other social services. Therefore, the CM risk factors that remain are those that are individual parenting factors, such as history of abuse, attributions, emotion regulation, and harsh discipline. This study examines COS-P impacts the latter three parent risk factors.

Early research on parenting risk factors associated with CM often looked at one or two factors. More recently, researchers are focusing on how these parenting risk factors interact to predict CM by using a theoretical framework that contains many of the parenting factors implicated in CM. One of the purposes of this study is to use a social information processing model (SIP; Lemerise & Arsenio, 2000) to ground the parenting variables associated with CM into a theoretical model. What follows in the next section of this chapter is a thorough review of one of the interactive social information processing models (SIP; Lemerise & Arsenio, 2000) that is currently being adapted to provide a framework for research studies in CM.

Social Information Processing

With roots in social cognition theories (Bargh, 1984), SIP can be defined as the set of operations and processes that an individual employs, whether consciously or unconsciously, to make decisions in dyadic social interactions (Crick & Dodge, 1994). In the late 1980's and early 1990's, researchers from various disciplines began introducing comprehensive SIP models to try to explain not just how a person's cognitions impact social interactions but also how a person's emotions, cognitions, and interpersonal history influence her or his behavior in social situations (Crick & Dodge, 1994); SIP researchers are particularly interested in understanding what combination of these individual factors

predict aggressive responses in social interactions (Fontaine, 2010). Synthesizing empirical findings from social learning, cognitive psychology, human aggression, and attribution theories, researchers have designed SIP frameworks in order to describe the sequence of cognitive, emotional, and behavioral steps a person employs during an interpersonal social interaction.

From a counseling perspective, the concept that cognitions impact behavior is not surprising. Cognitive behavioral theorists, such as Ellis (2004) and Beck (1997), have long posited the importance of cognitions on our emotions and behaviors, and a plethora of evidence-based cognitive-behavioral therapies have shown the efficacy of helping individuals change their cognitions to improve a variety of mental health conditions (Leahy, 2004). Additionally, theories of marriage and family therapy frequently emphasize the importance of cognitions and emotions on outcomes in interpersonal relationships (Blow & Sprenkle, 2001; Dattilio, 2004).

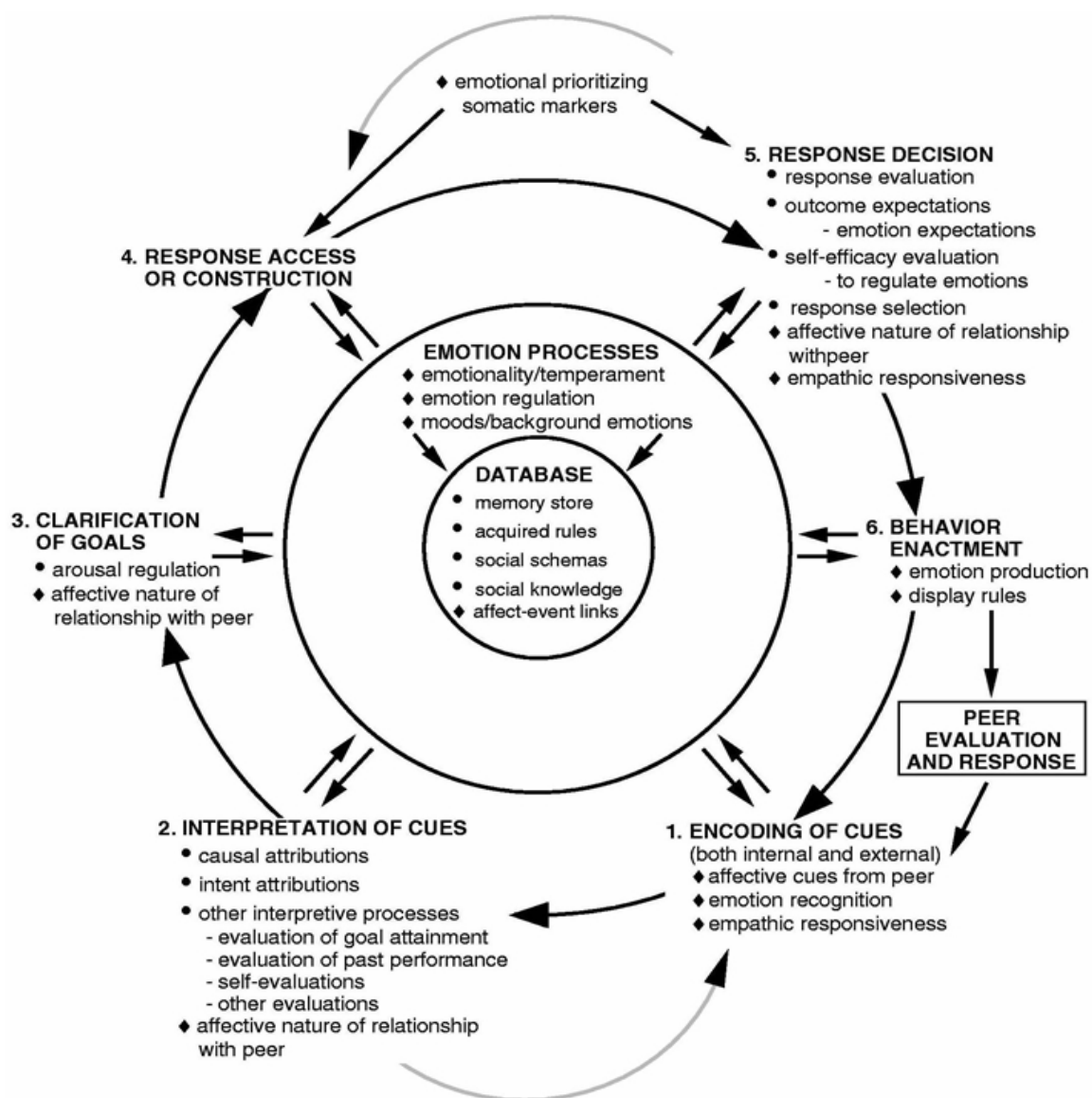
SIP researchers are interested in the individual factors that influence dyadic social behavior in interactions between childhood peers (Crick & Dodge, 1994), parents and children (Milner, 1993, 2003), and adult couples (Holtzworth-Munroe, 1992). SIP models take social interactions that are happening in real-time and break them down into step-by-step processes (Dodge, 2011; Milner, 2003). This allows researchers to understand and explore multiple cognitive, behavioral, and emotional aspects of these interactions and how they influence social behavior (Milner, 2003). Although several conceptual models of SIP exist (Crick & Dodge, 1994; Milner, 2003), the current study is grounded in Lemerise and Arsenio's (2000) integrated SIP model of emotion processes

and cognitions. This model was selected because it is the most integrated SIP model published to date. A thorough review of the Lemerise and Arsenio (2000) model follows.

Lemerise and Arsenio's Integrated SIP Model (2000)

Building on a previous SIP model (Crick & Dodge, 1994), Lemerise and Arsenio (2000) combined the most current empirical findings on emotion regulation and SIP into an integrated SIP model for children's social adjustment. Previous models had discussed, but did not graphically include, children's emotional processes in the SIP framework (Crick & Dodge, 1994; Milner, 1998). Lemerise and Arsenio (2000) hoped that the new model would provide researchers with a complete framework in which to understand and study children's SIP in peer interactions.

As introduced briefly in Chapter I, Lemerise and Arsenio (2000) conceptualized SIP as a concentric circle (see Figure 2). In the center of the circle is an individual's *database* which holds memory, rules, and schemas about social interactions. The database also includes past experiences that are linked to emotional memories which Lemerise and Arsenio (2000) call *affect-event links*. Integrating recent empirical findings in brain development, the authors suggest the database is developmental in that children have fewer database memories than adults, but over time a child's early social interactions create efficient neural pathways that are then integrated by adults into future social interactions (Crick & Dodge, 1994).



Items marked with filled circles are from the Crick and Dodge (1994) social information processing model. Items marked with filled diamonds present emotion processes added to the model. Reprinted with permission.

Figure 2. Lemerise and Arsenio's 2000 Social Information Processing Model.

Surrounding the inner database circle are emotional processes. These emotional processes include normative, emotional development processes and individual differences in emotion regulation, temperament, and mood states. Citing recent findings

in the neurophysiology of emotions (Damasio, 2003) and emotion regulation (Eisenberg et al., 2001), Lemerise and Arsenio (2000) contend that emotional processes bi-directionally influence the database and all six of the socialization steps on the next level of the SIP circle. As none of the previous models of SIP graphically included all the emotional processes, Lemerise and Arsenio's (2000) addition provides a more integrated SIP model.

The outer circle contains six sequential, cognitive and behavioral steps. The first step begins with the (a) encoding of social cues which starts the sequence of a social interaction, and then moves on to the (b) interpretation of cues. In Chapter I, we used the example of a child running away from its mother in a store. In step 1, the mother encodes cues, such as watching her child running down the store aisle. In step 2, the mother interprets why her child is running away. In this case, the mother's interpretation is that the child is running down the aisle because he or she is curious about something shiny on a nearby shelf (neutral attribution). In step 3, she considers goals, such as getting finished with her shopping or seeing what is intriguing the child. In step 4, the mother conjures possible responses, such as running to catch the child or following the child to see what he or she is interested in seeing. In step 5, a decision is made. She reflects that there is no one in the store and they have plenty of time before nap. Therefore, she'll leisurely follow the child to see what he or she is interested in seeing. In step 6, she enacts this decision.

Lemerise and Arsenio (2000), and other SIP researchers, posit that emotional processes impact how these steps are thought about and enacted. For example, if the

mother was stressed, this was the seventh time the child has run away (frustration), or they were late for another appointment (anxiety), the mother's SIP responses might be different. Similarly, if the database was triggered during this event, the mother's SIP might lead to another behavioral event. For example, if the mother had been abducted as a child (database), she might run and grab the child out of her fear from her past history of abduction. Thus, the integrated SIP model provides a framework to help us understand why an individual responds to social situations, particularly ambiguous social situations, in certain, and sometimes predictable, ways.

Research has repeatedly supported the SIP constructs as a framework for understanding the emotional, cognitive, and behavioral factors in interpersonal communication (Arsenio, 2010; Dodge, 2011). Researchers also are clear that there are distinct patterns of SIP that are associated with more aggressive behaviors (Fontaine, 2010). As in our hypothetical example, individuals who have hostile memories in their database, hostile interpretations of cues, and higher emotional arousal, often have higher amounts of social aggression (Dodge, 2011). Researchers have looked at SIP processes in preschool aged children (Schultz et al, 2010), elementary school aged children (Harper et al., 2010) and adolescents (Fontaine, 2010) and have found support for Lemerise and Arsenio's (2000) SIP model (Arsenio, 2010). Further, researchers are now finding specific neurophysiologic, genetic, and epigenetic markers that are associated with these aggressive SIP processing patterns in children (Dodge, 2011). Given these robust findings, researchers are beginning to use SIP models to help explain the processes associated with CM.

Research Studies Integrating SIP and CM Parenting Factors

There are fewer studies on SIP and CM parenting factors than on child and youth peer aggression (Dodge, 2011; Fontaine, 2010). In studies on SIP and children's peer interactions, researchers have systematically examined specific steps and layers of SIP (Dodge, 2011), while researchers who study SIP and CM are only beginning to integrate the various layers of SIP. Through a search of the PsycInfo and EBSCO Complete databases using the terms social information processing, child maltreatment, child abuse, and parents, this author located only a few studies examining the integration of these constructs. Table 1 lists a summary of these studies.

Table 1

Studies That Examine Child Maltreatment Parenting Factors Viewed through a Social Information Processing Model

Studies	Sample	SIP Model Processes		
		Database	Emotional processes	Cognitive/Behavioral Steps: 1-6**
Farc et al., 2008	2 studies: N=108 (L and H CPA risk) N=88(L and H CPA risk) (80% female)	High CPA risk vs. low risk as a "proxy for schema" then primed. ½ assigned to neutral vs. hostile priming	none	Step2: Attributions via ambiguous child picture cues.
Dixon's 2005/2009 multiple studies	N=4351 n=135 families with abuse history	History of CM	none	Step 2: Attributions Step 6: Offspring Maltreatment
Berlin, Appleyard, et al., 2011 SIP	499 moms and infants	Moms Experiences of CM	none	Step 2: Attributions via vignettes Step 6: Offspring Maltreatment

Table 1 (Cont.)

Studies	Sample	SIP Model Processes		
		Database	Emotional processes	Cognitive/Behavioral Steps: 1-6**
Montes et al., 2001	N=19 Spain matched H & L risk moms	none	Vignettes-negative affect-	Step 2: Attributions of wrongness Step5/ 6: Disciplinary practices
Dadds, Mullins, McAllister, Atkinson, 2003	60 mother-child dyads- 40 abuse risk & 20 non-clinical	none	Rater observed affect in video interaction	Step 2: Attributions Step 6: Rater observed aversive behaviors
Lorber & O'Leary, 2005	93 Community mother-toddler dyads	none	Autonomic physiology, Maternal ratings of emotional experience	Step 2: Appraisals (i.e., Attributions) Step 6: Over-reactive discipline
Martorell & Bugental, 2006	60 high-risk mothers of toddlers	none	-Cortisol -Family stress checklist	Step 2: Parent Attribution Test (PAT) Step 6: Harsh parenting
Rodriguez & Richardson 2007	N=115 mothers (86) and fathers (29), community sample	Empathy, PAT, Child development expectations,	State-Trait Anger	Step 6: 3 Dependent Variable - harsh/abusive parenting behaviors via several measures

Note: H = high; L= low; CPA = child physical abuse;

Researchers have examined several outer steps in the SIP cognitive/behavioral processes (Steps 1–6) and how they connect to the inner concentric layers (database and emotional processes). The next section will review the extant CM studies that are grounded in a SIP model and examine at least two layers of SIP processes.

Studies of database and cognitive/behavioral steps. Farc et al. (2008) conducted two studies using parent scores on the Child Abuse Potential Inventory (CAPI; Milner, 1986), a commonly used measure of child physical abuse risk, to group parents into high- and low- risk of child physical abuse. The authors used these scores as a

“proxy for chronic accessibility of hostile schema related to children” (Farc et al., 2008, p. 179). The authors then used priming techniques to access the hostile schema (SIP database). Priming techniques are the presentations of unobtrusive or subliminal stimuli to increase accessibility of schema (Farc et al., 2008; for more information on priming, see Bargh & Chartrand, 2000). The participants were randomly assigned to be primed with either hostile or neutral priming conditions and then asked to rate three ambiguous child pictures on how hostile or cooperative (SIP step 2-interpretations) the child was being in the picture (Farc et al., 2008). In both studies, parents with high child physical abuse risk, as compared to the parents with low risk, rated the ambiguous pictures with more hostility (Farc et al., 2008).

While Farc et al. (2008) used child physical abuse risk as a measure of the SIP database, other researchers have used alternate measures. Dixon, Hamilton-Giachritses, and Browne (2005) asked parents categorically if they had a history of CM, and Berlin, Appleyard, et al. (2011) employed a measure of the specific discipline practices the parent experienced as a child. Like Farc et al. (2008), these authors found that parents with a history of CM and harsh discipline had more hostile attributions and offspring maltreatment (Berlin, Appleyard, et al., 2011; Dixon et al., 2005). Researchers replicated these findings in longitudinal studies with children. Several researchers found that CM in the first five years of life predicts social information processing patterns at school entry (Dodge, Bates, & Pettit, 1990) and through adolescence (Dodge et al., 2003) and that these SIP patterns mediate the impact between maltreatment and the child’s aggressive peer behaviors. Dodge (2011) posits that children who have experienced CM early in

their lives develop a database that has schemas and scripts that others will act maliciously. Thus, the child develops a hyper-vigilance that morphs into aggressive SIP patterns. These aggressive patterns include attributions of hostile intentions to others, increased aggressive peer responses, and to later maltreatment of offspring. This progression explains the SIP perspective of the intergenerational transmission of CM (Dodge, 2011).

Studies of emotional processes and cognitive/behavioral steps. Researchers also have examined the next concentric layer in the SIP model, emotional processes, to determine how they impact the outer cognitive and behavioral steps, focusing most often on step 2 (interpretations via attribution measures) and step 6 (discipline practice measures). Some researchers explored parents' self-reports of affect and how they impact attributions and discipline practices. Montes et al. (2001) found that mothers with a high risk for CM, as compared to mothers with a low risk of CM, had more self-reported undesirable affect, hostile attributions, and harsh discipline. Dadds et al. (2003) found similar results using an observer to rate the effect of the mothers while the mothers were interacting with their child.

Other researchers applied physiological measures of emotional processes to examine their impact on attributions and discipline practices. In a non-risk community sample of mother-child dyads, Lorber and O'Leary (2005) used physiological and self-report measures of emotional processes during resting and a laboratory discipline encounter to test several mediation models. In one model, the mothers' hostile attributions mediated the relation between the mothers' self-reported emotional

experiences and over-reactive discipline (Lorber & O'Leary, 2005). In another model, two of the physiological measures, heart rate reactivity and vagal nerve reactivity, were associated with over-reactive discipline, but the mediation model between attributions and over-reactivity was not supported with these physiological measures of emotional processes (Lorber & O'Leary, 2005). The authors suggest the study be replicated with participants at risk for CM to determine if these parents differ in their emotional processes.

Martorell and Bugental (2006) examined another physiological measure of emotional reactivity, cortisol production, while comparing it to the cognitive behavioral steps of attributions and over-reactive discipline in a higher risk sample. The authors found that cortisol reactivity did mediate the relationship between the mother's attributions and their reported use of harsh discipline practices (Martorell & Bugental, 2006). Thus, Lorber and O'Leary's (2005) hypothesis of a difference between the emotional processes of parents with and without risk for CM is plausible.

Study of database, emotional processes, and cognitive/behavioral steps. Only one study was located that explicitly examined the relationship between all three layers of the SIP model, namely database, emotional processes, and cognitive/behavioral steps. Based on 115 parents in a non-risk community sample, Rodriguez and Richardson (2007) examined the relationships between parents' preexisting schema (database), one measure of state-trait anger (emotional processes), and three scales of abuse risk (Step 6). Interestingly, the authors chose to use an attribution measure, along with measures of empathy, developmental expectations, and parent attachment level, as a collective

measure of the parents' pre-existing schema. The authors performed three multiple regression analyses to independently predict scores on the three abuse risk measures, controlling the state-trait anger as a contextual variable. Rodriguez and Richardson (2007) found that the anger measure was a consistent predictor across all three abuse risk measures which included child abuse potential, over-reactive discipline, and physical aggression toward children. They also found that only the attribution measure of the parents' cognitive schema was significantly associated with the abuse risk measures (Rodriguez & Richardson, 2007).

Summary and critique. In summary, researchers integrating the SIP model with parents at risk for CM have found similar patterns of SIP as the patterns found in children and adolescents at risk for aggressive social interactions (Arsenio, 2010; Dodge, 2011). In other words, the SIP model elucidates the historical, emotional, cognitive and behavioral patterns association with the aggressive parenting behaviors often seen in CM. In general, parents with databases that contain a history of maltreatment or harsh discipline have significantly more hostile attributions and risk for CM than those without a personal history of maltreatment or harsh discipline (Berlin, Dodge, et al., 2011; Dixon et al., 2005), and parents who are at risk for CM have more reactive emotional processes than those parents who are not at risk for CM (Lorber & O'Leary, 2005; Martorell & Bugental, 2006; Rodriguez & Richardson, 2007).

This brief review of the extant literature indicates several limitations in the SIP and CM studies. First, there is inconsistency in how the SIP constructs are measured. For example, some researchers used an attribution measure as a cognitive step, while

other researchers used the same attribution measure as a database variable. Given that many of the constructs in the SIP model are latent, determining how to define and measure these often overlapping variables is complex yet critical to refining our understanding of CM and CM prevention. To date, there is no consensus on how to address these complexities. Researchers may be able to look to the numerous SIP studies in children's peer relationships to see how these complex constructs were measured (Dodge, 2011).

Second, reiterating the concerns from the parenting factors literature, most of the research studies reviewed above contained samples of only mothers. More studies are needed to determine how a father's SIP processes impact CM before we can generalize the findings to fathers. Even less is known of the individual impact a mother's and father's SIP contributes to CM.

Next, all of the studies reviewed examined only Step 2 and Step 6 of the cognitive/behavioral SIP. More research is needed to understand how Steps 1, 3, 4, and 5 interact with rest of the cognitive/behavioral steps, as well as the emotional processes and database. Again, researchers in the child SIP literature have examined these other SIP Steps and may provide researchers in the adult CM and SIP literature with some potential avenues for exploration (Dodge, 2011).

Last, as discussed in the section on parenting factors of CM, many of the studies did not measure the impact of other CM risk factors. Dixon et al.'s (2009) finding that two environmental factors (social support and financial solvency) impacted the

intergenerational transmission of CM is important. More research is needed that examines all the SIP processes in the context of other CM risk factors.

Although this study is not directly addressing these limitations in the SIP and CM literature, it still contributes to this body of literature in several ways. First, the study is grounded in the SIP model and uses two measures, namely the Parent Attribution Test (PAT) and the Parenting Scale (PS), that have been used in numerous studies on SIP and CM (see Bugental & Happaney, 2004; Mammen, Kolko, & Pilkonis, 2003; Martorell & Bugental, 2006; Rodriguez & Richardson, 2007).

Second, this study adds to the studies on SIP by explicitly measuring a parent's emotion regulation. Lemerise and Arsenio's (2000) definition of emotional processes includes emotion regulation, yet none of the above reviewed studies included an emotion regulation measure. The studies reviewed above indicate that emotional processes are important in CM and SIP.

Finally, though the literature on SIP variables and CM is relatively small, the extant literature on CM is vast and has explored the area of interventions for CM prevention in parents. This study adds to the CM invention studies in by examining a relatively new eight-week group based intervention, COS-P (Cooper et al., 2009). This intervention, as well as the parenting intervention literature in general, is reviewed in the final section of this chapter.

Attachment Theory and Social Information Processing

This study is measuring the impact of an attachment-based parenting program on several SIP variables. While at first glance it may seem surprising to evaluate an

attachment-based parenting program using a SIP model, both theories have a mutual interest in understanding primary social relationships. Therefore, it is not surprising that there are substantial overlaps between the two theories. In fact, Bowlby (1980), the originator of attachment theory, suggested that attachment relationships have “an information-processing” (p. 44) component.

For example, Bowlby’s *internal working model* is a construct that has been compared to the *database* in SIP models (Bowlby, 1988; Dykas et al., 2011). Bowlby (1988) defined the internal working model as a mental representation of the self and other in relationship that begins in the parent-child relationship and can later influence, often unconsciously, how the individual interacts in future relationships. Similarly, the *database* in SIP models has been described as a representation of early social relationships (Crick & Dodge, 1994). Thus, both constructs are based on an individual’s early dyadic social interactions and influence future interactions.

Dykas et al. (2011) posit “a parent’s attachment influences the social information processing in their child and a parent’s social information processing influences their child’s attachment” (Dykas et al., 2011, p. 82). The authors propose several mediation models and argue that this reciprocal process between attachment and SIP may partially explain the intergenerational transmission of these constructs (Dykas et al., 2011). In this study, a group-based parenting program grounded in attachment theory is being evaluated within a SIP framework. Therefore, after a brief review of attachment theory, the five variables in this study are reviewed from an attachment perspective.

Brief Review of Attachment Theory

John Bowlby developed attachment theory based on his observations of behaviorally disordered children in hospitals and clinics (Bowlby, 1988). Many of these children experienced dramatic separations from their caregivers, and Bowlby (1988) hypothesized that these had a negative impact on their development. His colleague Mary Ainsworth discovered, through hours of qualitative observations of mother-infant dyads, that children had different types of caregiver experiences and resulting child behaviors. Ainsworth developed the Strange Situation procedure (Ainsworth, Blehar, Waters, & Wall, 1978), which helped researchers classify these types of attachment behaviors into two broad categories or styles, secure and insecure (Ainsworth et al., 1978; Prior & Glaser, 2006). Since then, researchers from around the world have studied attachment styles and found associations between the attachment styles and future developmental trajectories. For example, secure attachment is associated with future pro-social behaviors, resiliency, superior problem solving, and a buffered stress response; additionally, insecure attachment (including the further delineated categories of avoidant, resistant/ambivalent, and disorganized styles) is associated with future negative affect, anti-social behaviors, anxiety, dissociation, and a higher cortisol levels (Lamb & Lewis, 2011). Further, researchers have developed ways of measuring attachment in adults (Hesse, 2008). The Adult Attachment Interview (George, Kaplan, & Main, 1996) is a semi-structured interview that measures an adult's attachment to their family of origin. Though the names are slightly different (autonomous, dismissing, preoccupied, or unresolved/disorganized), researchers have found roughly the same categories of

attachments in adults as they have found in children (Hesse, 2008). Thus, attachment theory can be conceptualized as a lifespan theory of close relationships (Bowlby, 1988; Hazan & Shaver, 1994).

Parent attributions. The attribution construct is integral to attachment theory. Ainsworth (1969) believed that a mother's attributions about her child's needs, emotions, and behaviors, need to be accurate, free from distortion, and empathic, in order to have the sensitivity needed for a healthy (i.e., secure) parent-child attachment relationship; problems in the parent-child attachment relationship stem from misreading the child's behavioral cues, making inaccurate inferences and then behaving in a way that starts a pattern of unhealthy interactions. Huth-Bocks, Levendosky, Bogat, and von Eye (2004) found that maternal representations (i.e., attributions) during pregnancy could predict later infant-mother attachment. Similarly, Crawford and Binoit (2009) found a mother's prenatal negative attributions about her unborn child were associated with later infant disorganized attachment and disrupted parent-child interactions. Interestingly, Broussard and Cassidy (2010) found that a mother's prenatal attributions about her baby could predict the type of adult attachment the child would later have when they were 30- to 40-year-old adults. These studies are similar to the findings in the studies reviewed in the previous section on parent attributions and CM. Therefore, a parent's prenatal attributions are associated with CM, SIP, and attachment.

Emotion regulation. Emotion regulation is also an important construct in both Lemerise and Arsenio's (2000) SIP model and Bowlby's (1988) attachment theory. From an attachment development perspective, Cassidy (1994) suggested that a parent can

directly influence the parent-child attachment relationship and furthermore, the parent serves to directly influence how the child's emotional regulation develops. For example, Graziano, Keane, and Calkins (2010) found that maternal warmth and sensitivity, hallmarks of a secure attachment, when the child was age 2 predicted better emotional regulation when the child was age 5.5 in a diverse sample. Researchers have repeatedly discovered that secure parent-child attachment relationships are associated with children's emotional health, including lower physiological measures of emotional reactivity, better coping with stress, less avoidance of undesired emotions, and better coping with anger (Lamb & Lewis, 2011; Thompson, Winer, & Goodvin, 2011; Waters et al., 2010). Thus, parental behaviors directly impact the child's emotional development.

Dykas et al. (2011) posit that parental emotion regulation is one possible mediator between parent information processing and child attachment. Kochanska, Clark, and Goldman (1997) found that a mother's negative emotionality was linked to her child's insecure attachment. Leerkes and Siepak (2006) found that adults who have a history of emotional rejection and adult attachment anxiety and avoidance had more inaccuracies in the identification of infant emotions. Therefore, it is reasonable to postulate that improvements in parental emotional regulation may lead to healthier parent-child relationships and more incidences of child secure attachments.

Parent discipline practices. Attachment theory posits that sensitive, nurturing caregiving in the first years of life fosters a secure attachment dyad and sets a child upon a healthy developmental trajectory; whereas insensitive, punitive caregiving, fosters an

insecure attachment relationship and set the child upon a trajectory of less than optimal outcomes, such as increased aggressive, anti-social, and disruptive behaviors (Kochanska, Barry, Stellern, & O'Bleness, 2009).

Researchers have repeatedly found that severely harsh discipline from caregivers, such as the case in child physical abuse, is associated with insecure and disorganized attachments in the offspring. For example, Baer and Martinez (2006) conducted an odds ratio meta-analysis to examine the effect size of the CM and insecure/disorganized attachment hypothesis. Reviewing eight controlled studies, the authors found that there was an 80% greater odds of having an insecure/disorganized attachment style in the children in the maltreated sample as compared to a 36% greater odds of insecure attachment in the comparison group ($n = 791$; Baer & Martinez, 2006).

Parental history of child maltreatment. Bowlby (1988) posited that mothers who maltreat their children have had their own “miserable childhood” (p. 84). In general, researchers have found support for Bowlby's hypothesis. For example, Stovall-McClough and Cloitre (2006) found that adult mothers who had a history of child abuse had significantly higher unresolved adult attachment as measured on the Adult Attachment Interview than mothers who did not have a personal history of child abuse. Bailey, Moran, and Pederson (2007) found similar results in a group of adolescent mothers. These results are correlational in nature; therefore, more research is needed to understand how CM later impacts attachment in adults. One of the mediation models that Dykas et al. (2011) posit in their recent article is one that suggests that unresolved adult attachment impacts a parent's emotional regulation which then is transferred to the

development of their child's social information processing. More longitudinal studies that assess these specific multiple factors are needed to clarify these complex processes (Dykas et al., 2011).

Substance abuse. Though Bowlby (1988) and Ainsworth (1969) did not overtly address caregiver substance abuse in their original writings, subsequent researchers have found that caregivers who abuse substances are less sensitive in their interactions with their children, less emotionally engaged, less attentive, and show less positive affect than caregivers without substance abuse issues (Mayes & Truman, 2002; Pajulo et al., 2006). Therefore, it is not surprising that children from families with substance abuse issues have higher rates of insecure and disorganized attachments (Fewell, 2011). Further, Caspers, Yucuis, Troutman, and Spinks (2006) found that adults classified as dismissing, preoccupied or earned-secure on the Adult Attachment Interview reported the highest rates of substance abuse/dependence and less substance abuse treatment participation. The authors, along with other researchers in the substance abuse treatment literature (e.g., Flores, 2004; Suchman, DeCoste, McMahon, Rounsaville, & Mayes, 2011) argue that an attachment based approach to substance abuse treatment is paramount (Caspers et al., 2006).

Research Studies Integrating Attachment, SIP, and CM

Only one study was located that explored attachment and SIP variables in the context of parenting factors in CM. Rodriguez and Tucker (2011) asked 73 at-risk mothers to report on their attachment to their own parents, child abuse potential, discipline practices, and their own history of abuse. The child abuse potential and

discipline practice measures are the same measures that have been used in numerous SIP studies. The authors found that mothers who reported more difficulties in their attachments to their own parents had more dysfunctional discipline practices and higher child abuse risk, even when controlling for the mothers' own history of abuse (Rodriguez & Tucker, 2011). As reviewed in the section on parental risk factors for CM, a parent's history of maltreatment, though still a risk factor, is not sufficient to predict maltreatment in the parent's offspring. Rodriguez and Tucker (2011) contend that the parent's attachment history may be an important construct to measure in assessing the risk of CM.

Summary

Dodge and Rabiner (2004) suggest that "integration across theoretical traditions is a daunting but important task for scholars who wish to understand human development" (p. 1003). This study integrates the overlapping constructs between three broad disciplines: CM, SIP and Attachment Theory. The overarching goal of this integration is to explore the impact of COS-P with a participant sample that has risk factors from all three of the disciplines. Both SIP and Attachment theories have a substantial base of research support, are concerned with social relationships, and have found that specific patterns of social interactions impact developmental outcomes, particularly in aggressive social relationships like those in CM (Dodge, 2011; Dykas et al., 2011). CM also has a substantial body of literature that links with SIP and Attachment constructs (Rodriguez & Richardson, 2007). Thus, integrating these bodies of literature may prove helpful in understanding how to intervene and prevent CM in high-risk families. This study continues this exploration and integration in the context of an evaluation of an

attachment-based parenting program on three variables in Lemerise and Arsenio's (2000) SIP model.

Group Parenting Programs to Prevent CM

Parents comprise the majority (80%) of child maltreatment perpetrators (USDHHS, 2012). Accordingly, many CM interventions target parents and parenting practices (Child Welfare Information Gateway, 2011b). Barth (2009) proposed that the most important approach to child abuse prevention is to improve parenting. One of the primary vehicles for making improvements in parenting involves parent programs.

In the literature, the term parent program is synonymous with parent education, parent intervention, and parent training (Samuelson, 2010). Parenting programs can be defined as standardized interventions designed to improve parenting practices that promote protective factors and positive outcomes for both parents and children (CDC, 2009; Child Welfare Information Gateway, 2008b). Parenting practices include “behavioral customs or care rituals in which parents engage in the context of the home environment that promote, or if adverse serve to compromise, the growth and development, health, safety, well-being, and socialization” of children (Walker & Kirby, 2010, p. 959). In CM prevention, parenting programs attempt to improve parenting factors and practices associated with CM (Lundahl et al., 2006). These include the same parenting factors reviewed earlier in this chapter and may also include teaching the parents parent-child interaction skills (CDC, 2009).

Effectiveness of Parenting Programs

Parenting programs are evaluated to determine their effectiveness at improving parenting skills and decreasing CM risk factors. There have been several meta-analyses of parent program evaluations (e.g., CDC, 2009; Lundahl et al., 2006) and literature reviews of best practices (e.g., Caspe & Lopez, 2006; Johnson et al., 2008; Small & Mather, 2009). There are also continually updated Internet-based registries that list the parent programs with the strongest evidence-based support to date (California Evidence-Based Clearinghouse for Child Welfare, 2012; CDC, 2009; Child Welfare Information Gateway, 2008b).

Multiple meta-analyses support the efficacy of parenting programs. These analyses compare the multiple program studies' goals, samples, outcomes, and effect sizes. They also include reviews of numerous randomized-controlled trials using both observational and self-report measures of parental outcomes. These analyses suggest that immediately following treatment, parenting programs succeed at reducing the parental risk factors in CM ($d = 0.45-0.60$; Lundahl et al., 2006). Though few parenting program studies measure actual reduction rates of CM from pretest, posttest, and follow-up conditions, those that have measured these changes have shown positive effects (MacMillan et al., 2008; Mikton & Butchart, 2009). Further, Kaminski et al. (2008) conducted a meta-analysis of 77 published evaluations of parent programs that included measures of parent and child behaviors. Using standardized regression weights to control for the differences in research designs, they found that parenting programs that contained instruction on parental emotional communication skills ($Beta = .437$) and positive parent-

child interactions ($Beta = .198$) were consistently associated with larger effect sizes as compared to parenting programs that focused on discipline practices ($Beta = .090$), problem solving ($Beta = -.247$), cognitive/academic skills ($Beta = -.243$), or social skills ($Beta = -.144$; Kaminski et al., 2008). Thus, these rigorous reviews of hundreds of parent program evaluation studies support the notion that these programs successfully impact the parental risk factors associated with CM.

CM parenting programs vary tremendously by format (i.e., home- and group-based models, targeted and universal models), the children's age group targeted, duration, intensity, and program goals (Samuelson, 2010). Given the breadth of programs and the fact that this study aimed to address mothers in a residential program with group-based treatment, this section only reviews group-based parenting programs designed to improve parenting practices in high-risk parent populations (Barlow & Stewart-Brown, 2000; Lundahl et al., 2006).

Group-based Parenting Programs

Group-based programs may be advantageous for parents at risk for CM. First, parents at risk for CM are commonly socially isolated (Azar, 1997, 2002) and in need of social support (CDC, 2008). The social support fostered in group-based parent programs may buffer parental stress, which is often high in families at risk for CM (Milner & Dopke, 1997). Second, group-based parent programs have the advantage of being cost-effective as compared to individual-only treatments (Samuelson, 2010). Third, Lundahl et al. (2006) found that supporting parents in more than one setting was more effective than applying the program in only one setting.

The group format may be particularly effective for mothers in residential substance abuse treatment. Group-based instruction is the primary therapeutic delivery format in many substance abuse treatment programs (Ashley et al., 2003; North Carolina Department of Health and Human Services, 2012). Further, group instruction teaches the basic concepts and allows for more reinforcement of the program's goals and skills during individual counseling sessions. A group-based program fits the natural progression of treatment for the participants in this study. The mothers meet during the day for the first few months of their treatment. The mothers also have programming at the residential site in the evening, which can include more group meetings, individual, or family therapy. Therefore, using a group parenting program that can be reinforced in the residential setting may be advantageous for the mothers in this study and potentially more effective (Lundahl et al., 2006).

This section briefly reviews the extant literature on group-based parenting programs that have demonstrated effectiveness with high-risk parent samples. This review is not meant to be exhaustive; rather, it highlights the reviews and studies that address the main constructs being measured in the study, namely emotion regulation, parental attributions, and parental discipline practices. First, the group-based parenting programs that explicitly examine SIP parenting constructs are explored. Next, group-based parenting programs that are grounded in attachment theory are reviewed, including the attachment program utilized in this study, Circle of Security-Parenting[®] (COS-P).

Group-based parenting programs targeting SIP factors. The research on group-based parenting programs that target specific SIP parenting factors in CM is broad

and contains several reviews and meta-analyses (e.g., Lundahl et al., 2006; Mikton & Butchart, 2009). For example, Lundahl et al.'s (2006) meta-analysis suggests that it is important for parenting programs to incorporate SIP constructs because these constructs "mediate the more distal" CM factors, such as a parental history of CM or community violence (p. 251). They analyzed 23 studies that specifically examined the effectiveness of programs targeting parents at risk for CM. These studies included 11 group-based, 6 home-based, and 6 mixed (both home and group) programs which included both national and lesser known parenting programs. Three SIP factors served as dependent measures in the meta-analysis: parents' emotional adjustment, child-rearing attitudes, and child-rearing behaviors. The authors also reviewed several program and participant characteristics as potential moderators. They found that both the group, home and mixed delivery parenting programs had effect sizes in the moderate range ($d = 0.45-0.60$; Lundahl et al., 2006), so they were able to positively influence the parental risk factors for CM. They also found that programs that included a home visiting component produced significant changes in parental child-rearing attitudes and trended toward a significant change in parental child-rearing behaviors (Lundahl et al., 2006). Interestingly, parent programs that used a mixed delivery format (both group and home) changed parental attitudes more than either of the singular format options (Lundahl et al., 2006). Thus, adding a home visiting component to group-based parenting programs may increase changes in parent attributions.

These findings have been replicated. For example, Wiggins, Sofronoff, and Sanders (2009) added attribution retraining, and anger management to a well-known

group-based parenting program that focuses on parental discipline practices and parent-child relationship skills. These additions were specifically added to the curricula to address the SIP parental risk factors for CM. Sixty parents were randomly assigned to the enhanced program or a wait-list control. The authors measured the parent-child relationship, parent discipline practices, parent attributions, and child emotional/behavioral problems. Wiggins et al. (2009) report that the enhanced program group had significant improvements in their parent-child relationships, discipline practices, and attributions, as well as reductions in their child's externalizing behaviors. These gains were maintained at a three month follow-up (Wiggins et al., 2009).

Mikton and Butchart (2009) conducted a systematic "review of reviews" containing 26 meta-analyses and comprehensive reviews of CM parent programs (p. 353). Seven of these reviews included 46 studies of group-based models. They found that these programs were able to make changes in the parenting risk factors associated with CM; however, more longitudinal outcome research is needed to determine if these programs reduce the actual incidence of CM post programming (Mikton & Butchart, 2009).

Group-based parenting programs grounded in attachment theory. Given the large body of literature documenting the importance of a healthy parent-child attachment relationship, it is imperative that counselors have empirically and clinically supported attachment programs to help children with insecure attachments move to a more secure attachment developmental track. In the past two decades, researchers have been designing, implementing, and validating a variety of attachment programs designed to

enhance parent-child relationships and secure attachments (Berlin, 2005). Attachment programs are manualized interventions that are grounded in attachment theory and have explicit goals of improving the parent-child attachment relationship (Bowlby, 1988; Toth, 2007).

Though this study is not limiting attendance based on a child age restriction, most attachment programs target parents of birth to five year olds (Moss et al., 2012). These programs vary in format (home or group) and duration (from four sessions to yearlong programs; Moss et al., 2012). Currently, there are several individual (e.g., Dozier et al., 2009; Lieberman et al., 2006; Van Zeijl et al., 2006) and group-based attachment programs (Cassidy et al., 2010; Hoffman et al., 2006; Niccols, 2008). Similar to the cited studies in the SIP section, several researchers have conducted meta-analyses and reviews of these attachment programs (e.g., Bakermans-Kranenburg et al., 2003; Berlin, 2005; Egeland, Weinfield, Bosquet & Cheng, 2000; Tarabulsy et al., 2008). Generally, researchers have found that these programs show efficacy at improving parent sensitivity, parent discipline practices, child security, and child behavior problems; however, the authors note the need for more research that focuses on specific populations, theoretical constructs, bidirectional interactions, evaluations of different attachment programs, and longitudinal follow-up (Berlin, 2005; Moss et al., 2012; Van Zeijl et al., 2006).

The literature on individual attachment interventions, either in the home or office setting, is more developed than the literature on group-based attachment programs (Berlin, 2005). Several researchers have conducted randomized controlled trials that document the effectiveness of individual attachment programs with diverse samples

(Cicchetti, Rogosch, & Toth, 2011; Dozier et al., 2009; Lieberman et al., 2006). The research on group-based attachment programs lacks multiple randomized control trials, which severely limits the ability to make causal inferences about treatment effects (Berlin, 2005). Some of these group-based attachment programs have one study that demonstrates some effectiveness at improving attachment security in low risk (Niccols, 2008) and high risk populations (Baradon, Fonagy, Bland, Lenard, & Sled, 2008; Kennedy, Landor & Todd, 2010; Steele, Murphy, & Steele, 2010); however, there is only one group-based attachment program that has demonstrated effectiveness with high risk samples and is currently available in the United States in a manualized format.

Circle of Security. Written and designed by attachment theory practitioners and researchers, Circle of Security integrates 60 years of attachment research and summarizes it for parents with easy-to-understand diagrams (Cooper et al., 2009; Marvin & Whelan, 2009); therefore, Circle of Security is both an intervention and a heuristic framework to help parents understand their child's attachment relationship needs (Hoffman et al., 2006; Zeneah, 2012). Circle of Security (COS) is the only group attachment intervention listed on evidence-based websites (California Evidence-Based Clearinghouse for Child Welfare, 2013). Though the COS intervention has primarily been evaluated with a group-based delivery system, it can also be delivered in individually in home or clinical settings (Cassidy et al., 2011; Zeneah, 2012).

The goals of COS are to:

1. Increase caregivers' reflective functioning.
2. Help caregivers develop more accurate internal representations of the self and other (especially targeting negative attributions of the child).
3. Enhance caregivers' internalized secure base script by giving them a roadmap (COS graphic) of children's attachment needs.
4. Support caregivers' emotion regulation through their understanding of *Shark Music* (which is the COS term for painful feelings that arise during parent-child interactions which can inhibit the parent's ability to meet their child's attachment needs) and by helping caregivers develop more empathy for the distress that unregulated parental emotions cause in children.
5. Support caregivers' appropriate and sensitive responses to children's emotions.
6. Increase caregivers' secure base/safe haven provision.
7. Improve attachment outcomes for children at risk for insecure attachment (Cooper, Hoffman, & Powell, 2011).

These goals are achieved by first completing a comprehensive assessment with the dyad (Cooper et al., 2005). The assessment entails a pre-intervention, two-hour, videotaped lab visit with the dyad (caregiver and child). The videotapes are analyzed by the practitioner to determine specific caregiver thoughts and behaviors that need to be addressed during the intervention (Marvin et al., 2002). The caregiver then meets with other caregivers and the group facilitator for 20 weekly group sessions. Interspersed

during the sessions are four, hour-long, home visits to review the videotapes of the dyad and a plan for intervention termination (Hoffman et al., 2006). Thus, the original COS intervention is a mixed delivery model that has both group and home components.

Researchers have examined the COS group intervention both qualitatively (Lee et al., 2010; Marvin et al., 2002; Page & Cain, 2009) and quantitatively (Cassidy et al., 2010; Hoffman et al., 2006). In four of these studies, the 20 week group-based intervention was used (Hoffman et al., 2006; Lee, et al., 2010; Marvin et al., 2002, Page & Cain, 2009). In one of the group COS studies, a modified version of the COS group intervention was used (Cassidy et al., 2010). The findings from these five studies can be critically reviewed according to both child and parent outcomes (see Table 2).

Table 2

Published Circle of Security Group Studies

Type of Study	Author (Year)	Intervention	Population/ Sample	Measures: pre/post	Findings
Qualitative: case study	Marvin et al. (2002)	20-week	<i>N</i> = 1 US High risk mom and 28-month-old (f) toddler.	Child —ASSP* Mother —COS Interview Adult Attachment Interview (AAI)	Child moved to secure on ASSP* Mother —increases in secure AAI, sensitivity, support
Qualitative: case study	Page and Cain (2009)	20-week	<i>N</i> = 1 US 23-year-old mom, 4-year-old (m) child in child welfare system	Child —ASSP* Mother —Insightfulness Assessment (Oppenheim, 2004)	Child —More sensitive on ASSP* Mother —Increase in Insightfulness

Table 2 (Cont.)

Type of Study	Author (Year)	Intervention	Population/ Sample	Measures: pre/post	Findings
Qualitative: case study	Lee et al. (2010)	20-week Aboriginal adaptation	$N = 3$ Australian Aboriginal adaptation	Child —none Mothers —COS interview Parent attachment style	Mothers — Parent Attachment trended toward less insecure. Mothers report increases in awareness, sensitivity, responsiveness, liked COS program
Quantitative: Exploratory, preliminary	Hoffman et al. (2006)	20-week	$N = 65$ US Head Start population. No control No longitudinal	Child –ASSP* No caregiver assessments reported.	Child — Decreases in Disorganized & Insecure. Increased secure
Quantitative: No control, Compared to community sample data	Cassidy et al. (2010)	COS perinatal protocol (COS-PP) Met in groups twice weekly for 15 months while pregnant, once child born watched video clips of moms/babies	$N = 20$ US women in prison Jail diversion program for substance abuse	Child —ASSP* Mothers — Maternal sensitivity - Adult attachment - Mother history of attitude to own parents - Depression - Dissociation - Self Esteem - Social Support - Trauma	Child —High secure on ASSP* Mothers — Lower depression No change in sensitivity, or any other aspects of maternal functioning.

Note. *ASSP = Ainsworth Strange Situation Procedure.

COS child outcomes. Regarding child outcomes, four of the COS group studies measured the child's attachment security using the Ainsworth Strange Situation Protocol

(Ainsworth et al., 1978). The Ainsworth Strange Situation Protocol is considered the most robust child attachment measure in the field (Berlin, 2005). Hoffman et al. (2006) published an intervention study with 65 preschool-caregiver dyads in a Head Start/Early Head Start program sample. At pretest, sixty percent of the children in this sample had high-risk attachment classifications in the insecure or disorganized category. At posttest, only 25% of these children were in the high-risk categories ($X^2(1, 65) = 17.06, p < .001$). Secure attachment increased from 20% at pretest to 54% following the intervention ($X^2(1, 65) = 20.17, p < .001$). Unfortunately, there was no control group, nor randomization in this study, so it is difficult to make any causal inferences from this study; however, the other three COS studies found similar results using the Ainsworth Strange Situation Protocol.

In one of the COS studies, researchers used a modified COS protocol. Cassidy et al. (2010) extended the COS protocol into a 15-month program that met twice weekly. The sample included 20 women in a residential, jail diversion program for substance abuse. Though there was no control group, Cassidy et al. (2010) compared pretest and posttest intervention results of the Ainsworth Strange Situation Protocol to other published samples. The authors found that these high-risk infants had posttest attachment security rates similar to those of low-risk samples and more favorable than other high-risk samples.

Overall, researchers have provided preliminary evidence for the efficacy of the original 20-week group COS protocol on child attachment. Given that there are no randomized controlled trials published to date, more studies are needed to make any

assumptions about the 20-week COS intervention being the definitive cause of these child outcomes. Further, no other child outcomes were measured in any of the studies.

Though the Ainsworth Strange Situation Protocol is considered the gold standard in attachment measures (Berlin, 2005), Cassidy et al. (2010) recommend adding other child outcome measures to delineate the effects of the COS intervention on child domains of functioning, such as emotional regulation and child behaviors. Finally, longitudinal research is needed to determine how long the child outcomes are sustained.

COS parent outcomes. The COS group studies also include measures of caregiver functioning, including caregiver sensitivity, insightfulness, attachment styles, attachment to own parents, social support, emotional processes, self-esteem, and trauma. Compared to the findings on child outcomes, the adult outcomes are more mixed. Several of the studies indicated that the caregivers did increase their levels of sensitivity (Marvin et al., 2002; Lee et al., 2010) and insightfulness (Page & Cain, 2009); however, Cassidy et al. (2010) did not find any significant changes in maternal sensitivity.

Regarding adult attachment measures, the findings are also mixed. Two studies showed trends toward more secure adult attachment styles (Lee et al., 2010; Marvin et al., 2002), while others found no impact on adult attachment (Cassidy et al., 2010). All three of these studies used various different measures of the adult attachment construct.

Researchers who have reviewed adult attachment measures have noted that the different adult attachment measures are measuring different but overlapping constructs (Crowell, Fraley, & Shaver, 2008), so it is plausible that these measurement differences account for some of the variance in the adult attachment findings.

There was only one COS study that measured the emotional processes of the adult participants. In Cassidy et al.'s (2010) study for mothers in a 15 month jail diversion program, the authors measured caregiver depression, dissociation, and self-esteem pre- and post- the COS intervention. Cassidy et al. (2010) found only the mothers' maternal depression significantly changed from pretest to posttest ($t(12) = 2.36; p < .05$). The other adult processes measured in this study were not significantly different. These findings are difficult to interpret due to the lack of a control group in this study.

Critique of the COS literature. In these preliminary studies, researchers have determined that the original, 20-week, COS intervention is generally effective at changing insecure and disorganized child attachment relationships to more secure attachment relationships. Given the voluminous body of research demonstrating the importance of a secure attachment relationship on future healthy child development outcomes, these findings are important. The COS intervention may be extremely helpful for children impacted by CM because these children often have higher incidences of insecure and disorganized attachment. More longitudinal research is needed to determine how enduring the attachment changes are after the COS intervention, and more randomized controlled studies are needed to determine if the COS intervention is the definitive cause of these changes.

Attachment theory contends that the attachment relationship between a child and a caregiver is a dynamic, bidirectional process (Zeneah, 2012). Therefore, if the child's attachment status is being changed through the COS intervention, then the caregivers' attachment relationship processes are also changing. In fact, six out seven of the COS

intervention goals are directed toward change in the caregiver (Cooper et al., 2011). A few researchers found that the mothers in these studies improved in sensitivity and insightfulness, yet some of the above listed COS intervention goals have never been empirically measured. For example, the COS intervention has explicit goals of improving caregiver emotion regulation and attributions; however, these constructs have not been assessed to date. Given that there are no randomized controlled study of the COS intervention, more studies are needed to determine exactly how caregivers are changing and what mechanisms mediate or moderate the change process.

As is the case in the CM literature reviewed earlier in the chapter, most of the COS studies had only mothers in their sample. Only one study had a small percentage of fathers in their sample (Hoffman et al., 2006). More research is needed to determine how fathers are impacted by the COS intervention.

Although the original COS intervention shows promise in helping improve the parent-child attachment relationship, there have been difficulties in implementing the COS intervention in clinical settings. The videotaped assessments, reviews, and video-editing are time consuming for practitioners in community settings. These assessment activities are often unbillable by traditional insurance and health care providers, so it is difficult for community practitioners to complete these assessments without extra financial resources. The ten days of training needed to be able to implement the COS intervention is also physically and financially difficult for some practitioners.

***Circle of Security-Parenting*[®] (COS-P).** Due to the feasibility difficulties just described in implementing the original COS intervention, Cooper et al. (2009) developed

an eight-week parent education program grounded in the core components of COS. COS-P's goals are the same as the original COS protocol (Cooper et al., 2009); however, the time and cost intensive individual videotaping of the dyads has been removed. Instead, COS-P utilizes animated graphics, handouts, and examples of effective and ineffective parent-child interactions in an eight-chapter DVD to teach the parents the components of healthy parent-child attachment relationships. The training for practitioners is only four days in length and no other training is needed thereafter. Practitioners who complete the training are considered registered COS-P facilitators. Currently, there are scheduled trainings in the US, Canada, Australia, New Zealand, Sweden, Norway, and Italy (Circle of Security International, n.d.).

COS-P can be used individually or in group settings. The DVD contains approximately 15 minutes of recorded content per weekly chapter. Each DVD chapter has four to six recommended pauses in which the facilitator stops the recording and facilitates provided process questions or reviews handouts. Cooper et al. (2009) suggest allowing 1.5–2.0 hours of group time per week. The DVD also contains electronic copies of the weekly parent handouts. Chapter III contains the details of each COS-P program chapter. To date, there are no published research studies on the COS-P program. The program developers report that evaluation studies are in progress in several international and national locations (B. Powell, personal communication, April 29, 2012). Therefore, it is unclear if the eight-session COS-P format will be as successful as the original COS intervention at changing the above reviewed parent and child outcomes.

Some researchers have found that shorter attachment interventions can be just as effective as longer interventions (Bakermans-Kranenburg et al., 2003; Cassidy et al., 2011). For example, Bakermans-Kranenburg et al. (2003) published a meta-analysis of 88 attachment interventions directed at improving parental sensitivity and/or child attachment. The authors reviewed the type, timing, and effectiveness of attachment interventions. In general, the author's meta-analysis found that the attachment interventions could be successful at changing parental insensitivity ($d = .33$) and child attachment insecurity ($d = .20$). The authors entitled their article, "Less is More" (Bakermans-Kranenburg et al., 2003, p. 195), which refers to their findings that a moderate number (16 or fewer) of sessions is adequate to see changes in parental sensitivity and child attachment security.

Further, Cassidy et al. (2011) conducted a study which used a modified four-session home visiting COS model. Although this study was not reviewed with the other COS studies because it was using an individual COS model rather than a group COS model, it is relevant for this review because of its implications for a shorter COS parenting program. Cassidy et al. (2011) randomly assigned economically stressed mother-infant dyads who were recruited from a hospital to a COS treatment condition or a psycho-educational control condition. Based on the large body of literature on temperament \times environment interactions, the authors wanted to test the differential susceptibility hypotheses which asserts that "susceptible infants have less optimal outcomes than other infants when the environment is negative and more optimal outcomes than other infants when the environment is positive" (Cassidy et al., 2011, p.

133). Previous research has indicated that infant irritability is an important temperament consideration (Velderman, Bakermans-Kranenburg, Juffer, & van IJzendoorn, 2006), so the authors assessed the infants' irritability and included moderately and highly irritable infants in the sample. The authors measured maternal attachment style and treatment group as two potential environmental factors that would interact with the infant's irritable temperament. Although there was no main treatment effect, a treatment \times irritability interaction effect was found (Cassidy et al., 2011). In other words, highly irritable infants had disproportionately better outcomes than the moderately irritable infants in the short home visiting COS treatment condition. Thus, the shortened individual COS protocol positively impacted irritable infants (Cassidy et al., 2011). This is extremely important for the study as infants who have been prenatally exposed to teratogens (alcohol and other harmful substances) can have high levels of irritability compared to infants not exposed to teratogens (Hudak & Tan, 2012).

Chapter Summary

The purpose of this chapter was to (a) review the large body of literature on parental risk factors for CM, (b) provide the theoretical grounding of the study in an SIP model that is able to address these parenting factors, and (c) examine the group-based parenting programs that have shown efficacy at impacting these CM factors. As a reminder and caution, CM has multiple, complex causal factors. Parenting programs were not designed to address all of these complex causal CM factors. Parenting programs attempt to influence the modifiable, direct caregiver factors implicated in CM, and the research to date supports this goal (Barth, 2009).

Similarly, SIP models provide a framework for understanding what is happening in dyadic relationships. Researchers have recently found that there are genetic, neurophysiological, and temperamental mechanisms involved in the processing of social information, so the SIP framework will likely continue to evolve to incorporate these findings (Dodge, 2011). That said, researchers have found that using current SIP models as a framework for designing interventions for both children and adults has been successful (Dodge, 2011; Lundhal et al., 2006; Powell, Lochman, Boxmeyer, Barry, & Young, 2010).

This study's overarching goal is to examine changes in several important SIP parenting risk factors for CM using an attachment-based parenting program. The context of this study permits some control over the other causal factors implicated in CM, because the participants in this study have adequate social, financial, and housing support. Thus, the study allows for a careful and applied examination of COS-P's influence on the parental risk factors associated with CM.

This study addresses a number of gaps in the literature. First, the study expands on research on the SIP model by measuring several variables associated with CM. Second, given that SIP has been theorized to mediate the attachment relationship, the study will also add to the literature by using a SIP theoretical model to assess an attachment-based parenting program. The CDC (2008) has called for more parent education programs in CM prevention that focus on parent-child relationship issues, so researchers should study intervention programs that are grounded in attachment theory as a means to prevent CM.

Third, the study adds to the literature on the COS protocol generally, and the COS-P program specifically. None of the COS studies to date have measured the COS goals of improving caregiver emotion regulation and hostile attributions. Since there are also no published studies on the new COS-P program, one purpose of the study is to understand the women's experiences of the COS-P program in an applied setting. Greenberg (2005) suggests practitioners need both evidence-based and applied studies on attachment-based programs.

CHAPTER III

METHODOLOGY

The focus of this study was to evaluate the Circle of Security Parenting (COS-P) program using action research methodology. In this chapter, the action research methodology, research questions, community context, COS-P program, participant population, instruments, procedures, and data analysis for the study are explained. The chapter concludes with the pilot study procedures and findings.

Action Research Methodology

Action research is defined as the systematic study of a problem embedded in the context of its setting (O'Brien, 2001; Riel, 2010). Two of the main components of action research are (a) the notion that the practitioner is also the researcher and (b) that the subjects of the research are active participants in the research process (O'Brien, 2001). These main components are derived from action research's beginnings in the 1940s as a way to research the impact of various forms of social action (O'Brien, 2001). Action research is commonly used by teachers, administrators, and education researchers to improve and evaluate programs in school settings (O'Brien, 2001). It is also useful for counselors who want to research problems they see in community and school settings (Guiffrida, Douthit, Lynch & Mackie, 2011; Rowell, 2006). Riel (2010) summarizes three goals of action research: (a) to improve professional practice through continual examination, (b) to deeply understand practice and the impact of its action, and (c) to

improve the community in which one's practice is embedded by including stakeholders in the research process. Though several variations exist, action research typically contains the following four basic research steps that will be included in the current study: (a) problem identification and research questions, (b) action, (c) data collection and analyses, and (d) reflection (O' Brien, 2001). Chapters I and II identified the problem: the need to evaluate the COS-P program's impact on mothers in treatment for substance abuse. The action step involved implementing an eight week COS-P program. The data collection and analyses step are described in this chapter and continue in Chapter IV.

The reflection step is a key component in most action research studies. Action researchers believe that stakeholders' reflections are important to understanding the impact of the study and thinking critically about planning the next step (Riel, 2010). Reflection may encourage participants to integrate the knowledge they gain from the COS-P program and help the researcher critically analyze the program's impact on the mothers. In this study, the reflection step occurred among all three major stakeholders. First, mothers reflected on the COS-P program at the end of every group session during a 'check-in' in which mothers were asked what they liked about the session content and what they'd change about the group session. The mothers also reflected globally on the COS-P program during a focus group at the completion of the sessions.

Second, the researcher reflected on the group process, strengths, and weaknesses after each group session by completing brief reflection notes. Third, staff in the agency reflected on the impact (strengths and weaknesses) of the COS-P program on their work with the mothers through a brief reflection questionnaire that was given after the group

was completed. Reflections from the above three groups were transcribed, collated, and analyzed as described in the qualitative data analysis section of this chapter.

Problem Identification and Research Question

In action research, the researcher identifies a problem, develops research questions, and gathers input from stakeholders on how to address the problem (Guiffrida et al., 2011). In this study, the main research question was, “How does the COS-P program impact mothers who are in a yearlong residential treatment program for substance abuse?” Beyond this overarching question, several sub-questions were proposed. These include:

1. How did the COS-P program impact the participants’ emotion regulation?
2. How did the COS-P program impact participants’ thoughts about the causes of their children’s behaviors?
3. How did the COS-P program impact the participants’ discipline practices?
4. How did the participants’ backgrounds, as reviewed from the participants’ patient admission evaluations, impact their experience with the COS-P program?
5. What did the mothers feel were the strengths and/or weaknesses of the COS-P program?
6. How did staff members perceive the impact of the COS-P program on their work with the mothers in the program?
7. How did the COS-P group researcher/facilitator perceive the impact of the program on the mothers and her work as a clinician?

The above research questions were answered both quantitatively and qualitatively. Quantitatively, pretest and posttest measures on the participants' parental attributions, discipline practices, and emotion regulation were collected. Secondary data from the agency patient admission evaluations were reviewed for demographic data, substance abuse history, and history of CM to provide in-depth case profiles of the mothers.

Qualitatively, the participants reflected during a group check-in at the end of each session and attended a focus group following the final COS-P group session. The researcher, who is facilitating the COS-P group (called researcher/facilitator), kept reflection notes following each group session. Further, after the COS-P program was completed, agency staff answered a brief evaluation survey about the COS-P's impact on their work with the mothers. The details of all of the quantitative and qualitative analyses are described later in the chapter.

Circle of Security-Parenting® Program

COS-P (Cooper et al., 2009) is a recently-developed parenting program grounded in attachment theory. As discussed in Chapter II, the goals of the COS-P include increasing a parent's observation and inferential skills of their child's needs, increasing the parent's sensitivity to their child, increasing parental emotion regulation, and decreasing the parent's negative attributions of their child (Cooper et al., 2009).

COS-P utilizes an eight-chapter DVD to teach the parents the components of healthy parent-child interactions through animated graphics and examples of effective and ineffective parent-child interactions. The DVD contains approximately 15 minutes of recorded content per weekly chapter. The DVD also contains electronic copies of the

weekly parent handouts. Each DVD chapter has four to six “recommended pauses” in which the facilitator stops the recording and reviews the provided process questions or handouts. Cooper et al. (2009) suggest allowing 1.5 – 2.0 hours of group time per week. In this study, an hour and a half hour time block was reserved for the weekly group. This is the typical time slot and schedule for the weekly parenting support group at the agency.

Each of the COS-P chapters is outlined in the Facilitator DVD manual (5.0; Cooper et al., 2009). Chapter One, “Welcome to COS-P,” introduces the Circle of Security-Parenting[®] model and a child’s basic needs for exploration of their environment and comfort from caregivers. Chapter Two, “Exploring our children’s needs,” shows specific examples of children’s needs around the circle and helps parents understand the different needs. Chapter Three, “‘Being With’ on the Circle,” teaches parents how to share and manage their child’s emotions. Chapter Four, “‘Being With’ Infants on the Circle,” specifically addresses emotions in infants and how to help infants organize their feelings. In Chapters Five “The Path to Security” and Six “Exploring Our Struggles,” the parents begin to explore how they were raised, how their background may influence their relationship with their child, and how to repair the parent-child relationship when needed. Chapter Seven “Rupture and Repair in Relationships” helps parents understand their child’s acting out behaviors and how to manage them. Chapter Eight, “Summary and Celebration,” celebrates what the parents have learned throughout the program, answers any lingering questions, and allows time to debrief their group experiences (Cooper et al., 2009).

To become a registered COS-P parent educator, the facilitator must complete a four-day training with one of the COS-P authors. After the training, facilitators are given a license to use the COS-P manual, DVD, and handouts with parents. The researcher/facilitator in this study has successfully completed this training (see Appendix H). Additional information on the COS-P program can be found at the Circle of Security website (Circle of Security International, n.d.).

In this study, a total of nine COS-P sessions were held. The extra session was scheduled to allow for the Spring Break and Easter holiday in which some of the participants were home with their children. To ensure that the study only included feedback on the COS-P program from participants who attended the majority of COS-P sessions, only participants who attended at least six of the nine (66%) group sessions were included in this analysis.

Participant Population

The primary population in this study was adult mothers who were residents in a yearlong substance abuse treatment program in the Southeastern United States. All of the residents were adult females who were pregnant or post-partum and had children in their care who were under the age of 12. The women and children received a myriad of social services while enrolled in the program, such as psychiatric care, full developmental assessments, case management, childcare, transportation, job support, and group and individual treatment. The program can hold 25 families at a time. During the 2010-2011 fiscal year, the program's cultural diversity included 72% Caucasian, 21% African

American, 4% Native American, 2% Hispanic, and 1% Asian women (Agency annual report, October 2011; agency name is withheld to protect participant confidentiality).

Many of the women in the program had multiple risk factors for CM, such as poverty, low education, substance abuse, family history of abuse/trauma, and history of previous involvement in child welfare (Child Welfare Information Gateway, 2011b). The high percentage of these risk factors is illustrated by agency-provided data from the 2010–2011 end of year report (Agency annual report, October 2011):

- Sixty-nine percent of the mothers in the program had a high school education or less, 63% had Medicaid at admission, and 37% had no insurance.
- Sixty-nine percent of the mothers reported past mental health treatment, and 28% reported at least one suicide attempt.
- Among new clients, 86% stated that their families of origin had substance abuse problems, and 65% reported previous treatment for substance abuse.
- Forty-four percent disclosed physical abuse as a child, 56% reported a history of sexual abuse, and 77% reported having experienced domestic violence.
- Seventy-eight percent had been arrested at least one time, 42% had been incarcerated, and 25% were on probation or under court supervision.
- Fifty-nine of the 100 women with children (does not include women who were pregnant at the time of admittance) had a total of 141 children who were placed outside of their care, and 56 women reported that they had been investigated by Child Protective Services (i.e., the Department of Social Services) in the last 12 months.

In this study, mothers who were enrolled in the residential treatment program at the time the COS-P program was introduced were eligible to participate in the study. Since the agency had agreed to try the COS-P program, all mothers in the Substance Abuse Comprehensive Outpatient Treatment (SACOT) program on the designated day attended the COS-P sessions; however, they were not required to be in the study in order to attend the sessions. Fifteen mothers initially agreed to participate in the study and completed consent, pretest, and posttest measures. Nine mothers attended enough COS-P sessions (i.e., six out of the nine; 66%) to be considered a part of the study. Demographic data for these nine participants are provided in Chapter IV.

The secondary participants include the researcher/facilitator, who completed a reflection note after each group session, and staff members, who completed a two-page questionnaire documenting any impact the COS-P program had on their work with the mothers.

Community Context

In action research, the context of where a study takes place is important to understanding the impact of the action step (Stringer, 2007). The agency where the COS-P program took place is a comprehensive, gender-specific, substance abuse treatment program. The agency is affiliated with the Department of Obstetrics and Gynecology at a local hospital that serves high risk pregnant women in a prenatal clinic at the local hospital. The mission of the agency includes (a) providing a comprehensive, gender-specific continuum of substance abuse services to women with children under the age of 12, (b) supporting education and training to other service providers and professionals

about the needs of this population, and (c) contributing to the research and practice literature on mothers and substance abuse (Agency annual report, October 2011).

The agency participates in Substance Abuse Comprehensive Outpatient Treatment (SACOT), which is a state-wide, standardized, treatment program for substance abuse and includes group therapy and psycho-education on parenting, trauma, addiction, health, and job readiness (North Carolina Department of Health and Human Services, 2012). The SACOT program runs for four hours a day, five days a week, for the first four months of treatment. After the SACOT program ends, the next phase of group treatment, called Step-down Relapse Prevention, runs for three days a week for another two months. As decided by agency meetings, the current study took place during the SACOT phase of treatment and included the participants' parenting group leader in the sessions for billing purposes. Thus, per IRB recommendations, the group researcher/facilitator was not billing, nor reimbursed, for her time leading the COS-P group sessions.

As is typical in action research (O'Brien, 2001), key agency staff members were solicited for input on the study. Several meetings were held to design the best approach to setting up the study. At these meetings, it was decided that the researcher/facilitator would provide staff members with a training on COS-P constructs after the program was completed, that the study results would be shared with the staff in order to determine the future of this program in the agency, and that the agency's SACOT group therapist will be in the room during the COS-P program. This staff member observed the sessions but did not take an active role in the facilitation of the group. The staff member took attendance, which is required for treatment billing purposes.

Instruments

This section contains a description of the instrument psychometric properties for the measures used in this study. Four pretest measures and three posttest measures were given to nine participants. The four pretest measures included the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), Parent Attribution Test (PAT; Bugental, 2011), Parenting Scale (PS; Arnold et al., 1993), and the Marlowe Crowne (1) 10 Social Desirability Scale (MC; Strahan & Gerbasi, 1972). The three posttest measures include the ERQ, PAT, and PS (The MC was only given at pretest). Using SPSS, version 20 (2011), Cronbach's alpha coefficients were calculated as measures of internal consistency on both pretest and posttest measures used in the study. The Cronbach's alpha coefficients in the current study for each measure are reported in Table 3.

Table 3

Instrument Reliabilities in the Current Study ($N = 9$)

Instrument	# of items	Cronbach's Alpha Pretest	Cronbach's Alpha Posttest
ERQ	10	.72	.86
ERQ-Modified	12	.74	.85
PAT- 4 factors	12		
ACF+	3	.008	.73
ACF-	3	.78	.96
CCF+	3	.82	.84
CCF-	3	.56	.68
PS total	30	.75	.65
Lax	11	.72	.52
Over-reactivity	10	.68	.59
MC	10	.63	n/a

Note. ERQ = Emotion Regulation Questionnaire; PAT = Parent Attribution Test; ACF+ = Adult Controlled; ACF- = Adult Uncontrolled; CCF+ = Child Controlled; CCF- = Child Uncontrolled; PS = Parenting Scale; MC = Marlowe Crowne (1) 10 Social Desirability Scale

Generally, researchers consider an internal consistency of at least .70 adequate (Heppner, Wampold, & Kivlighan, 2008); however, many researchers recommend sample sizes in the hundreds to garner maximum effect sizes for a Cronbach's Alpha (Henson, 2001). Therefore, a sample size of nine contains limited power and results should be interpreted with caution (Henson, 2001).

Emotion Regulation Questionnaire (ERQ)

Gross and John (2003) developed the Emotion Regulation Questionnaire (ERQ) to measure individual differences in two commonly utilized emotion regulation strategies: reappraisal and suppression. Reappraisal is defined by the authors as an adaptive emotion regulation strategy that uses cognitions to change a potentially emotion-eliciting situation to one that has less emotional impact. Suppression is a maladaptive emotion regulation strategy that involves the individual inhibiting ongoing emotional expression. In this study, each factor scale served as a unit of analysis for emotion regulation. Gross and John (2003) theorized that these two strategies have different implications for affective expression, social relationships, and well-being, and they developed the ERQ to measure these differences. They designed five studies to test these hypotheses and determine the reliability and validity of their measure. The authors conducted both exploratory and confirmatory factor analyses on the measure with four samples of undergraduate college students (total $n = 1483$). The two ERQ factors accounted for more than 50% of the variance in each sample (Gross & John, 2003). The authors found evidence of adequate internal consistency across the four samples (alpha

averages .79 for reappraisal and .73 for suppression) and test-retest reliability across three months ($r = .69$; Gross & John, 2003).

In study 2, Gross and John (2003) found evidence of convergent and discriminant validity. Using logistic regression, the authors tested the two factors as main effects on the various confirmatory and divergent dependent variables. They determined that the two factors were independent and additive but not interactive; thus, they reported only the main effect betas (Gross & John, 2003). The authors found that reappraisal converged with measures of regulation success ($beta = .20, p < .05$), reinterpretation coping ($beta = .43, p < .05$), and mood repair ($beta = .36, p < .05$); in contrast, suppression converged with inauthenticity ($beta = .47, p < .05$), lack of venting ($beta = -.43, p < .05$), and poor mood management ($beta = -.41, p < .05$) (Gross & John, 2003). In comparisons with the Big Five personality dimensions, the authors discovered that reappraisal had a discriminant relationship with neuroticism ($beta = -.20, p < .05$) and suppression had a discriminant relationship with extraversion ($beta = -.41, p < .05$) (Gross & John, 2003).

Recently, Melka, Lancaster, Bryant, and Rodriguez (2011) conducted a follow-up confirmatory factor analyses of the ERQ and found good overall fit ($n = 1188, \chi^2(34) = 227.58, p < .05, CFI=.96, TLI = .95, RMSEA = .050$) in a diverse undergraduate sample. They conclude that the ERQ is a “structurally consistent and sound measure of emotional suppression and reappraisal across gender and African American and European American groups” (Melka et al., 2011, p. 1290).

The above two validation studies examined the ERQ among undergraduate college samples. Recently, several authors have expanded its use in broader samples.

For example, Clark (2012) used the ERQ in a study with adults in treatment for substance abuse and found the suppression factor to be associated with relapse and the reappraisal factor associated with wellness. Moore, Zoellner, and Mollenholt (2008) used the ERQ with a trauma-exposed community sample and found that the suppression factor was associated with PTSD, anxiety, and depressive symptoms. To date, this author could find no published studies using the ERQ in the context of an intervention, so its efficacy in measuring changes in emotion regulation were tested in this study.

Due to concerns in the pilot study that the ERQ did not have any reverse-scored items, two reverse-score items were added to the measure which increased the items from 10 to 12. Thus, Cronbach's alpha coefficients for both the 12-item (with two additional reverse scored items) and the 10-item (original) ERQ are presented in Table 3. Both pre- and post-test Cronbach's alpha coefficients ranged from .72 to .86, which indicates adequate internal consistency with this sample. Adding the two reverse-scored items on the ERQ did not dramatically impact the ERQ Cronbach's alpha coefficients; therefore, the original 10-item ERQ scores were used to calculate the remaining analyses.

Parent Attribution Test (PAT)

The Parent Attribution Test (PAT) was developed by Bugental (Bugental, 2011; Bugental et al., 1989) to assess the perceived causes of successful and unsuccessful adult-child interactions. Bugental et al. (1998) conceptualized the attribution construct on two dimensions: controllability (controllable vs. uncontrollable events) and person (adult vs. child). These two dimensions yield four factors: ones that are controllable by adults (ACF+), ones that are controllable by children (CCF+), those uncontrollable by adults

(ACF-), and those uncontrollable by children (CCF-). Confirmatory factor analysis (LISREL) found a goodness of fit coefficient of .91 for these four factors (Bugental, 2011). The PAT gives parents two different caregiving situations, one presented as a successful interaction and one presented as a failure. Only the caregiving failure items are scored. The parent indicates on a seven-point scale to what they attribute the success or failure of the caregiving situation. The English PAT was normed on a sample of 159 mothers and 82 fathers. The PAT had two month test-retest reliability scores of $r = .61$ when administered to 55 undergraduate women, and $r = .63$ when administered to a group of mothers which indicates adequate stability (Bugental, 2011). The current short version of the PAT contains 12 caregiving failure items on a Likert scale ranging from 1 to 7 yielding a continuous Perceived Control Factor (PCF). The PCF served as the unit of analysis for parental attributions in this study.

In terms of internal consistency, the PAT has shown some internal consistency when the four factors were assessed independently. For example, Lovejoy, Verda, and Hays (1997) found alphas that ranged from .40-.85 for the four factors. Bugental et al. (2002) found alpha coefficients for the four factors in the range of .43-.71 in a pre- and post-intervention study. Since other published articles utilizing the PAT did not report alpha coefficients, this study reports the alpha coefficients of all four factors.

Bugental and colleagues also demonstrated evidence of the PAT's predictive validity. In the original study on the PAT, Bugental et al.(1998) found that low perceived power scores on the PAT predicted more negative affect in mothers interacting with high-risk children. Later, Bugental and her colleagues found that low perceived power scores

on the PAT predicted elevated levels of punitive force and autonomic arousal (Bugental et al., 1998) and child maltreatment (Bugental & Happaney, 2004). There is also some evidence of convergent and discriminant validity. Lovejoy et al. (1997) found that the PAT converged, though weakly, with measures of parent locus of control measures and was not related to measures of affect or anxiety. Further, Lovejoy et al. (1997) determined that the PAT was not sensitive to social desirability measures as compared to other measures of parent locus of control and efficacy.

Several factors made the PAT useful for this study. First, because COS-P is grounded in attachment theory, it was important to use a measure that also has been studied from an attachment perspective. The PAT has been shown to correlate with attachment theory constructs (Bugental, 2011). For example, Grusec, Adam, and Mammone, (1993) found that individuals scoring low in PCF were more likely to have an avoidant attachment style, as measured by the Adult Attachment Interview. Second, the PAT has been used in other intervention studies with high risk families (Bugental et al., 2002; Bugental & Swartz, 2009); therefore, it appears the scale may be sensitive to changes in parental attributions. Last, the PAT has a third-grade reading level which makes it useful for populations that may have low literacy.

In this study, adequate internal consistency was found on two of the four factors, ACF- (pretest $\alpha = .78$; posttest $\alpha = .96$) and CCF+ - (pretest $\alpha = .82$; posttest $\alpha = .84$). The CCF- factor did not reach adequate internal consistency (pretest $\alpha = .56$; posttest $\alpha = .68$). The ACF+ factor had no internal consistency at pretest ($\alpha = .008$) and adequate consistency at posttest ($\alpha = .73$). One possible reason for the low reliability on these two

factors, and at pretest in general, was that there may not have been much variance in the sample. The PAT asks participants to rate the *importance* of various reasons for an unsuccessful caregiver interaction on a scale from one to seven, with seven (very important) at the far right of the scale. At pretest, participants tended to rate most reasons as *very important*. At posttest, participants rated the reasons with more discrimination. Therefore, it is possible that after the COS-P intervention, participants were better able to discern what factors were important in unsuccessful caregiving interactions. Given that each of the factors contains only 3 items and there were only nine participants, these reliability results are speculative and should be interpreted with caution.

The Parenting Scale (PS)

Developed by Arnold et al. (1993), the Parenting Scale (PS) is a commonly used measure of parental discipline practices. The authors of the scale noted the need for a short, self-report scale of actual discipline practices that could support parent education evaluation and was linked to the current literature on effective parenting. The PS contains 30 items on a seven-point Likert scale that assess the behaviors parents use to discipline their children. Arnold et al. (1993) trialed their new measure on 168 mothers of children 18-48 months old. Their sample included mothers who had children with and without behavioral issues. The authors found adequate internal consistency for two factors and the total score: *over-reactivity* ($\alpha = .83$), *laxness* ($\alpha = .82$), and a *total* score ($\alpha = .84$). Arnold et al. (1993) also found partial support for another factor, *verbosity*, but it never replicated across samples and was thus dropped by the authors. A two-week, test-retest with a subset of 22 mothers from both samples indicated temporal stability for the

two factors and total score ($r = .83$ *laxness*, $.82$ *over-reactivity*, and $.84$ *total*). The authors also found evidence that the PS could discriminate between groups of clinical vs. non-clinical samples and was related to parent reports and outside observations of child behaviors and discipline practices (Arnold et al., 1993). The authors concluded that the PS shows preliminary usefulness as a scale of dysfunctional discipline practices. They noted the small sample size in some of the analyses and the use of only mothers as limitations they hoped further researchers would explore.

Since the initial study by Arnold et al. (1993), the PS has been validated numerous times. Rhoades and O'Leary (2007) reviewed five studies that assessed the PS's factor structure and had taken place since the original 1993 study. These five studies broadened the sample to include parents of elementary school children with and without attention-deficit/hyperactivity disorder, low-income African American children and parents, and children enrolled in a Head Start program. Each of these studies found a two-factor solution (*lax* and *over-reactivity*) and evidence of discriminant validity across a variety of constructs (Rhoades & O'Leary, 2007). Rhoades and O'Leary (2007) then followed with a confirmatory factor analysis with a randomized sample of 453 couples. This sample size provided ample power for all analyses (range between .94-.99). They found adequate reliability (alpha coefficient ranges from $\alpha = .78 - .85$) and validity. They confirmed the *lax* and *over-reactive* factors and also found a third factor of *hostile*. The *hostile* factor contributed unique variance in the prediction of childhood behavior problems, so the authors argue for including it in the scoring of the PS.

Since Rhoades and O’Leary’s (2007) study, several more confirmatory factor analyses have been conducted using samples outside of the United States, including Australia and Belgium (Freeman & DeCoursey, 2007; Karazsia, van Dulmen, & Wildman, 2008). It is also the measure used by several internationally known, evidence-based, parent education programs. For example, the PS has been used to evaluate the evidence based Triple-P positive parenting program (Sanders, Markie-Dadds, Tully, & Bor, 2000) and the Incredible Years parenting education program (Gardner, Burton, & Klimes, 2006). Therefore, the PS has been used with high-risk community samples and is sensitive to change via parenting programs. These recent studies report the two-factor (*laxness* and *over-reactivity*) scores and the total score; therefore, this study reports results similarly. Internal consistency scores for the PS are listed in Table 3 and ranged from $\alpha = .52$ to $\alpha = .75$ for this study. Given that there were only nine participants, results should be interpreted with caution.

Marlowe Crowne (MC)

Due to concerns about inconsistent responses to the study instrumentation during the pilot study, the Marlowe Crowne (1)10 (MC; Strahan & Gerbasi, 1972) was added to the pretest measures for the full study. The MC is a frequently used measure of individual differences in social desirability. The MC consists of 10 true-false items where higher scores indicate more socially desirable responses. Using principal components analysis, Strahan and Gerbasi (1972) developed the MC from the original 33 item Marlow Crowne (Crowne & Marlowe, 1960) and found adequate reliability (Kuder-Richardson Formula 20; KR-20 ranges from .59 to .70) and correlations (r ’s between .80

and .90) with the original longer version. More recently, Fischer and Fick (1993) conducted a confirmatory factor analysis on several short versions of the measure and found the MC to have high internal consistency ($\alpha = .876$), correlations with the standard form ($r = .958$), and improved fit over the original scale and several other short versions of the scale (AGFI = .968; RMS = .035; Chi Sq = 32). The MC Internal consistency for this study was $\alpha = .63$.

Patient Admission Evaluation

This agency form contains categorical, demographic information that is collected when the mothers enter the residential program; therefore, it is secondary data. Identifying information is located on the first and last pages of the document. This identifying information was removed, shredded, and replaced with the participants' unique identifiers created for the self-report measures. Pertinent demographic data was reviewed for each of mothers who consented to the study. The Admission Evaluation data reviewed in this study include age of participant, number of children, ages of children, personal history of child maltreatment, history of child maltreatment with their own children, highest level of education, and time in residential substance abuse treatment (see Appendix G). Results are described in Chapter IV.

Procedures

After obtaining approval for the study by the Institutional Review Boards (IRB) at the University of North Carolina at Greensboro and the University of North Carolina at Chapel Hill, the researcher implemented the procedures listed below. The procedures are

categorized in this section by participant group: COS-P participants, researcher/facilitator, and staff participants.

COS-P Participants

Since the COS-P researcher/facilitator is also the child therapist at the agency, participants may have felt some pressure to join the study. To minimize any potential coercion, the IRB recommended that another researcher gain consent from the participants; this researcher could have been from the agency or outside the agency, just not a staff member with direct daily contact with the residents. In this study, Kim Andringa, PhD, MSPH, Senior Research Associate at UNC Center for Women's Health Research, solicited consent to participate in the study and facilitated the final focus group. Dr. Andringa is the primary researcher and evaluator at the agency and is CITI trained at UNC; however, she does not see the mothers on a daily basis, nor does she have a therapeutic relationship with the mothers. Therefore, there was less potential for coercion. Mothers who were currently enrolled in the residential program and in the SACOT phase of treatment were verbally recruited for the study by Dr. Andringa during a regularly scheduled SACOT session. Once the consent forms were signed, the pretest measures were given by the researcher/facilitator. Participant confidentiality was protected by creating unique identifiers that were matched with the participants' posttest measures at the end of the COS-P program. In order to avoid any potential bias from the researcher/facilitator reviewing the pretest data while also facilitating the COS-P program, the pretest self-report measures were not viewed until after all data had been collected and the program had been completed. The participants sealed their completed

pretest measures in an envelope and gave them to the researcher/facilitator. The sealed pretest self-report measures were secured in a double lock file cabinet in the primary researcher/facilitator's UNC office until the end of the COS-P program per UNC's IRB recommendation.

The consent form in this study included a release of information for the participants' Patient Admission Evaluation. While a small sample size prevented a quantitative exploration of this data, the Patient Admission Evaluation provided rich contextual data of the COS-P program participants.

Next, the COS-P program took place once a week for nine weeks, for 1.5 hours per session. As mentioned earlier, an extra weekly session was held to accommodate the Easter and Spring Break holiday. The sessions were digitally audio-recorded. To ensure that the COS qualitative comments were reflections from participants who had sufficient exposure to the curriculum, only participants who attended at least six out of the nine (66%) COS-P sessions were considered enrolled in the qualitative portion of the study. Nine participants met the criteria for inclusion in the study and had their weekly end-of-session comments transcribed into a Microsoft EXCEL 2010 spreadsheet. Extra comments from participants who were in the group sessions but not in the study were removed. Therefore, the qualitative data analyzed included only individuals who completed at least six sessions and provided consent to participate in the study.

Dr. Andringa facilitated the focus group at the end of the ninth group session. The focus group was digitally audio-recorded and turned in to the researcher/facilitator for transcription. The digital audio file of the focus group was password protected and

maintained on the researcher/facilitator's office computer per UNC IRB recommendation. The audio file was transcribed into a Microsoft EXCEL 2010 spreadsheet. Extra comments from participants who were in the room but not in the study were removed.

To ensure fidelity to the COS-P model, the audio recordings of the sessions were externally reviewed by Dr. Andringa who randomly selected two sections of the audio files, listened to 5 minutes of the file, and documented that the session content reasonably matched the content in the COS-P facilitator's manual.

Researcher/Facilitator

As previously mentioned, in action research the researcher is often a practitioner embedded in the community agency (Stringer, 2007). As part of the reflective process in action research (O'Brien, 2001), the researcher/facilitator briefly reflected after each of the group sessions and jotted down several sentences of notes (See Appendix I). These notes were combined with the other qualitative content into a Microsoft EXCEL 2010 spreadsheet for analysis.

Staff Participants

The impact of an action step on a community agency is important in action research (Stringer, 2007). Prior to the start of COS-P and at a regularly scheduled staff meeting, the researcher/facilitator informed the staff of a new parenting program being implemented and that the researcher/facilitator would be asking staff after the program had been completed, if the program impacted their work with the participants. To reduce the potential for bias, no other information on COS-P was provided at that time.

After the COS-P program was completed, staff members were provided some basic information about the COS-P program and were asked to complete a two-page, open-ended staff evaluation survey about how COS-P impacted their work with the participants (see Appendix J). The staff members anonymously put completed surveys in the researcher/facilitator's mailbox at the agency or sent them through inter-office mail services. These responses were transcribed and entered into the Microsoft EXCEL 2010 spreadsheet with the other sources of qualitative content. The researcher/facilitator received nine completed staff questionnaires.

Data Analysis

A primary focus of any research, but especially action research analysis, is ensuring rigor (Stringer, 2007). Because action researchers often are embedded within the community or school setting they are studying, they need to build in checks for the trustworthiness of their data to minimize the potential for bias (Guiffrida et al., 2011; Stringer, 2007). In this study, triangulation was used to enhance rigor (Stewart, Shamdasani, & Rook, 2007). Triangulation can be defined as including diverse sources of information in a study to increase the validity of the findings (Stringer, 2007). There were three types of triangulation in this study. First, the participants, COS-P researcher/facilitator, and staff members were solicited for feedback regarding the impact of the COS-P program on the participants. This provides multiple viewpoints from which the research questions were analyzed. Second, these qualitative sources of data were further checked against the quantitative self-report and secondary data sets. For example,

the focus group responses were compared to the quantitative pretest and posttest scores from the self-report measures.

Last, two outside researchers were brought in to critically analyze multiple sources of qualitative data (Stringer, 2007). The researcher/facilitator, Dr. Andringa, and a staff Masters level research assistant were the three coders for the qualitative data.

What follows is a description of the specific analyses for each of the seven sub-research questions, the specific qualitative analysis steps, and the action research evaluation analysis.

Research Question Analyses

1. How did COS-P impact the participants' emotion regulation? The COS-P program's impact on the participants' emotion regulation was analyzed both quantitatively and qualitatively. Four quantitative analyses were utilized. First, the average trend line for the nine participants was plotted (horizontal axis = time; vertical axis = scores) and is depicted in graphic form in Chapter IV. On the ERQ, reductions in *suppression* and increases in *reappraisal* signified improvements in emotion regulation practices; therefore, separate trend line charts were made for each of the ERQ factors. Second, the Sign test, which is a test of the binomial distribution, was used to determine if the number of participants with positive change reached significant levels.

Third, reliable change was determined using the Reliable Change Index (RCI; Jacobson & Truax, 1991) for each participant. The RCI estimates when a changed score is considered reliable and not the product of measurement error by taking into account previous test-retest reliability scores and the means and standard deviations in the sample

(Deville, 2005; Jacobson & Truax, 1991; Ogles, Lunnen, & Bonesteel, 2001).

Mathematically, the RCI computes the difference between a participant's pretest and posttest score divided by the standard error of the difference of the measure (Jacobson & Truax, 1991; Ogles et al., 2001). RCI scores above ± 1.96 are considered clinically significant at the $p < .05$ level (Jacobson & Truax, 1991).

Finally, the six participants who did not attend the majority of COS-P sessions were compared to the nine who did. To examine potential dose effects, the six participants were broken into two groups: those that attended 0-1 sessions ($n = 2$), called the *No Attendance* group, and those that attended 3-5 sessions ($n = 4$), called *Partial Attendance* group. Mean scores for each factor were calculated with these two groups and were compared to the mean scores from the nine participants.

Qualitatively, the participants' responses from the end-of-session check in (Appendix E) and the focus group (Appendix F) supplemented the quantitative data and provided rich quotes describing how COS-P impacted their emotional states.

2. *How did COS-P impact participants' thoughts about the causes of their children's behaviors (i.e., attributions)?* The participants' attributions were assessed quantitatively with PAT utilizing the total PCF score. On the PAT, higher PCF scores indicate improvement. The mean trend line for the nine participants was categorized at improved (positive slope), no change, or worsened (negative slope). The Sign test, RCI, and dose comparisons were calculated as described above.

Qualitatively, the participants' comments from the end-of-session check in (Appendix E) and focus group (see Appendix F) supplemented the PAT quantitative findings.

3. How did COS-P impact the participants' discipline practices? The COS-P program's impact on the participants' discipline practices were analyzed with the PS. The PS's two factors (*laxness* and *over-reactivity*) and total score were calculated. A lowered score on the PS indicated improvements in discipline practices. The Sign test, RCI, and dose comparisons were calculated as described above. Qualitatively, the participants' comments from the end-of-session check-ins (Appendix E) and focus group (see Appendix F) supplemented the PS's quantitative data.

4. How did the participants' backgrounds, as reviewed from the participants' patient admission evaluations, impact their experiences with the COS-P program? Participants that completed 6/9 of the group sessions (66%), completed all the pretest and posttest measures, participated in the focus group, and provided consent to review their patient admission evaluation were qualitatively reviewed ($N = 9$). The nine members were assigned to one of two groups, those that had reliable change on the quantitative measure and those that didn't. Results are discussed in Chapter IV.

5. What did the participants feel were the strengths and weaknesses of the COS-P program? The participants' responses from the weekly COS-P check-in (see Appendix E) and the focus group questions on the strengths and weaknesses of the COS-P program (see Appendix F) were transcribed and coded according to the qualitative analysis steps

described below. Quotes from the participants detail their thoughts on the strengths and weaknesses of the COS-P program.

6. How did staff members perceive the impact of the COS-P program on their work with the participants? Staff member responses from the staff evaluation survey (see Appendix J) were transcribed and analyzed according to the qualitative analysis steps described below.

7. How did the COS-P researcher/facilitator perceive the impact of the program on the participants and her work as a clinician? The responses from the COS-P Facilitator Reflection (see Appendix I) were transcribed and analyzed according to the qualitative analysis steps described below.

Qualitative Analyses Steps

As with most qualitative research studies, efforts needed to be made to reduce the data to manageable quantities for analyses (Stringer, 2007). Given the breadth of qualitative data in this study, the following qualitative data analyses steps were utilized:

1. The focus group audio file, the end-of-session check-in comments from each of the eight group sessions, the staff evaluation survey, and researcher/ facilitator reflections were transcribed and entered into a Microsoft Excel 2010 spreadsheet. All identifying information was removed from the data. The unit of analysis was defined as one sentence from a participant, staff member, or the researcher/facilitator (Fahy, 2001). The focus group facilitator's comments and the facilitator check-in comments were not coded. The units were organized in four separate excel files by participant group: participant

end-of-session check in, participant focus group, staff, and researcher/facilitator comments.

2. Two researchers from the agency were recruited to assist with data analyses.

The main researcher/facilitator provided a brief, 30-minute training for the two researchers on the terminology from the COS-P program and the type of qualitative content involved in the study. Stemler (2001) recommends an a priori coding system for qualitative data that is grounded in theory. Given that this study is grounded in SIP and is an evaluation, preliminary analysis began with a priori coding. Each unit of analysis was coded on two dimensions. First, each unit was categorized as + (positive comment about intervention), - (negative comment about the intervention), 0 (neutral or suggestion comment), or NC (non-coded). Second, units were given a code if they refer to the participant's emotions (E), cognitions (C), behaviors (B), other/ suggestions (O), or non-coded (NC). These codes correspond to the SIP variables under review for this study. All three researchers practiced coding on a sample data set until acceptable inter-rater reliability had been established and questions about the comments and categories answered.

During the training meeting, researchers were provided information on how to address emergent themes in the data set that were missed in the a priori categories. For this study, emerging themes were defined as reoccurring statements that appeared from more than one participant and/or in one or more of the participant groups. Following the consensus coding strategies outlined above, more than one coder must have documented the theme for the emergent theme to be listed as a consensus emergent theme. Coders

practiced emergent coding with the sample data set. The emergent themes found in the qualitative data are reviewed in Chapter IV.

3. All three researchers independently reviewed and coded the qualitative data.

4. The two researchers turned in their codes to the main researcher/facilitator who compiled the data. Coding consensus was reached when at least 2/3 of the coders had the same code. A total of 219 units were coded. 155 came from the mother participants, 46 came from staff members who interacted with the mothers during the COS-P program, and 18 were reflective comments from the group researcher/facilitator. Given the overlap in these constructs, more than one coding was allowed for secondary codes. Non-coded (NC) comments, which included unidentifiable information (“um,” “yeah,” etc.) were not analyzed. Only 3 units (1% of the total statements) were unresolved; therefore, the three coders determined they had reached consensus on majority of the statements (99%).

Frequency counts and examples of evaluative (+/-/0/NC) and variable (E/C/B/NC) units are presented in Chapter IV. The 219 comments were analyzed for inter-rater reliability. The three raters’ codes were transformed into a nominal scale (0 = Non-coded comments, 1 = negative comments, 2 = neutral comments, and 3 = positive comments) and entered in to SAS 9.3 (2010) for analyses. A Fleiss’s Kappa coefficient of .55 ($p < .001$) was found. The agreement between coders on the positive (1) and negative (3) statements had the highest Kappa statistics. The raters had the least agreement on statements that were Non-coded (0). Table 4 provides a summary of the results. Generally, a Kappa statistic between .01 and .20 is considered slight agreement,

.41 and .60 is moderate agreement, and between .61 and .80 substantial agreement (Viera & Garrett, 2005).

Table 4

Fleiss's Kappa for Three Raters & Four Nominal Codes

Codes	Kappa	Standard Error	Z	Prob > Z
0	-0.01389	0.039014	-0.3560	0.6391
1	0.71140	0.039014	18.2346	< .0001
2	0.47654	0.039014	12.2148	< .0001
3	0.61833	0.039014	15.8490	< .0001
Overall	0.55203	0.031513	17.5174	< .0001

Evaluation Analysis

One of the goals of action research is to determine if the action step was successful and whether or not the action step should be continued in the setting (Riel, 2010; Stringer, 2007). Therefore, part of the data analysis involved determining if COS-P seemed appropriate to continue in the substance abuse treatment program (O'Brien, 2001). The program was determined to be successful if at least 50% of participants showed improvement on any of the measured parental factors (i.e., at least five out of the nine participants had scores on the measures that were in the expected direction).

Pilot Study

After approval from UNC Greensboro's IRB office, a pilot study was conducted with the purpose of testing the appropriateness of the three self-report measures to be used in the main study with participants similar to the main study population. The

participants in this study, as well as in the main study, are women in substance abuse treatment. A 2011 annual program report from the agency indicated that 69% of the program mothers had a high school education or less (Agency annual report, October 2011). Therefore, one purpose of this pilot study was to see how a similar population responded to the measures' readability. This section describes the pilot study's research questions, participants, instruments, procedures, and data analysis/results. This section concludes with a discussion about changes that will be made to the main study based on this pilot study.

Research Questions

The primary research questions for the pilot study were as follows:

1. How do women in an outpatient substance abuse program perceive the Parent Attribution Test, Emotion Regulation Questionnaire, and Parenting Scale?
2. Do the pilot study participants have any suggestions for changes to be made in the measures for the main study?

Participants

The pilot study sample consisted of ten women in a gender-specific, outpatient substance abuse treatment program. The treatment program resides in a rural county in central North Carolina and is a satellite office of the same treatment program that will be used in the main study. The participants were all mothers and ranged in age from 28 to 54. The group included two African American and eight Caucasian mothers. The day and time of the pilot study were set to coincide with a standing, weekly, parenting support group at the outpatient program. Attendance in this parenting group is

completely voluntary. If needed, the outpatient program provides transportation to and from the meeting and childcare for the participants' children.

Instrumentation

After agreeing to the informed consent document, participants completed the three self-report measures that are planned to be used in the main study. The measures were given in this order: Parent Attribution Test (PAT; Bugental, 2011), Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), and The Parenting Scale (PS; Arnold et al., 1993). There was a one-page questionnaire attached to the end of each measure. The questionnaire was designed by the researcher and asked the participants' opinions about the ease of the measures' directions, questions, and words (Appendix K).

Procedures

The residential treatment program's Executive Director provided a letter of support to the researcher for both the pilot study and the main study. Since the researcher is a part-time staff member at the residential agency, she was able to approach satellite office staff members at one of the agency's monthly meetings and arrange a time to come to the outpatient office to discuss the pilot study prior to implementing it. During this meeting, the staff members expressed verbal support for the pilot study and agreed to talk about the study to the women in the program in order to encourage participation. The researcher and staff members agreed on a date for the pilot study the following week.

The researcher arrived at the beginning of the regularly scheduled Monday morning parenting group. After the participants signed in and the parenting group leader took care of the agency check-in procedures, the group was turned over to the researcher

for the pilot study. The researcher provided a verbal presentation of the pilot study along with the shortened consent form. All ten mothers completed the consent form and had no questions or concerns about the study. The parenting group leader served as the witness. There were no costs or payments made for participating in the pilot study; however, the researcher served light refreshments.

After the consent forms were completed, the researcher described the rest of the pilot study and reminded the participants not to write their names on any survey documents. The researcher distributed the first measure (PAT) and gave brief verbal instructions for the measure and the one-page questionnaire (Appendix K). Once all ten participants finished the PAT and attached questionnaire, the second measure (ERQ) and attached questionnaire were distributed. This procedure continued for the remaining measure (PS). It took 50 minutes to complete all the documents. It should be noted that one participant left the group after the first measure was completed, so only nine participants completed the ERQ and PS.

The researcher observed the participants while they completed the measures and noted that one participant asked a mother sitting next to her to “fill out the last page for me.” Since this was the last measure, it is possible the participant was getting bored or fatigued with the pilot study. The researcher encouraged her to complete the survey on her own since she was almost done, so the friend handed her back the measure. The mother quickly circled some responses. Given the speed of the participant’s response time, the validity of those responses is in question.

Data Analysis and Results

The data analysis involved the review of two sets of data: the scores on the three measures and the responses on the brief questionnaire. First, the means and standard deviations were calculated for all three measures and are summarized in Table 5. To provide some context for the obtained scores, the researcher gathered comparison scores from published studies that had mean scores and standard deviations from normative and clinical samples. The mothers in this sample had less hostile attributions (i.e., higher PCF scores), higher reappraisal, and lower submission, than either clinical or normative published comparison groups; however, the mothers had higher scores on the PS's total, lax, and over-reactive factors than either clinical or normative published comparison groups.

With regard to the hypotheses questions, the mothers were asked to separately rate the ease of each measure's directions, questions, and words on a Likert-type scale from one (strongly disagree they were easy) to seven (strongly agree they were easy). The mothers in this sample had generally favorable impressions of each of the measures. Table 6 lists the mean scores for the pilot sample data on the three measures as well as the few comments that were obtained.

As can be seen from Table 6, the mothers rated the ERQ as the easiest scale to understand and the PAT as the least easy to understand scale; however, all mean scores were on the positive side of the scale. Although the PAT had the lowest ease scores, only one participant wrote a comment. This participant was concerned that the vocabulary on the PAT might be difficult for some of the mothers in treatment. Although the PAT has

been measured to be at a third-grade reading level (Microsoft Word, 2010), the word *disposition* was noted to be potentially difficult for some participants.

Table 5

Pilot Study Mean and Standard Deviation Scores and Comparative Data

Measure	Pilot Participants	Published Comparison Group Data		From
		Clinical Group	Non-clinical Group	
		Mean (SD) n	Mean (SD) n	
PAT PCF (+/- 0; +0=less hostile)	.33 (1.85) 10 .33 median	0.01(1.04) 37 ⁴	.25(.82) 159	Mammen et al. (2003)
ERQ Reappraisal (1-7; 7 = more use)	4.93(1.70) 9 4.5 median	4.76(1.0) 62 ³ 4.47(1.31) 179 ²	4.57(1.03) 289 ¹	Moore et al. (2008) Clark (2012)
ERQ Suppression (1-7; 7 = more use)	3.25(2.06) 9 3.50 median	3.48(1.39) 62 ³ 3.63(1.27) 179 ²	3.33(1.27) 289 ¹	Moore et al. (2008) Clark (2012)
PS Total (1-7; 7 = ineffective)	3.52(2.14) 9	3.1(1.7) 26 ⁵	2.6(.6) 51 ⁶	Arnold et al. (1993)
PS Lax (1-7; 7 = ineffective)	3.45(1.99) 9	2.8(1.0) 26 ⁵	2.4(.8) 51 ⁶	Arnold et al. (1993)
PS Over-reactive (1-7; 7 = ineffective)	3.35(2.26) 9	3.0(1.0) 26 ⁵	2.4(.7) 51 ⁶	Arnold et al. (1993)

Note. 1 = undergraduate sample, 2 = substance abuse treatment sample, 3 = trauma exposed community sample, 4 = substantiated child physical abuse sample, 5 = mothers reported to a clinic because of extreme child behavior problems, 6 = mothers with children in pre-school.

Table 6**Pilot Participants' Feedback on Measures**

Measure	<i>M (SD)</i> <i>n</i>	Participant Comments
PAT	5.63 (1.77) 10	"Difficult to understand, poor wording, big words might not be understood by target audience, i.e., 'disposition'" (<i>n</i> = 1)
ERQ	6.96 (0.19) 9	None
PS	6.12 (1.6) 9	"The scale" "Possibly ages, as I do different things with different ages." (<i>n</i> = 2)

Note. Scale 1–7, with 7 = Strongly agree directions, questions, & words were easy. Prompt for participant comments was "If you rated any statements with a 3 or below, please explain what was difficult."

Discussion

The participants in this study scored better than comparison samples on the measures of cognitions and emotions; however, the participants had discipline behavior scores that indicated more ineffective practices than even the clinical comparison samples. From a SIP perspective, these findings are counterintuitive. The SIP model would posit that if a parent had better emotion regulation processes and less hostile attributions, the parenting practices would also be more effective.

There are several possible explanations for these findings. First, the standard deviations in this sample are larger than any of the comparison samples. Thus, the distribution is more skewed and the mean may not be a good indicator of results. To test this explanation, graphs were made of the range of participant scores for the ERQ and PAT (see Figures 3 and 4, respectively).

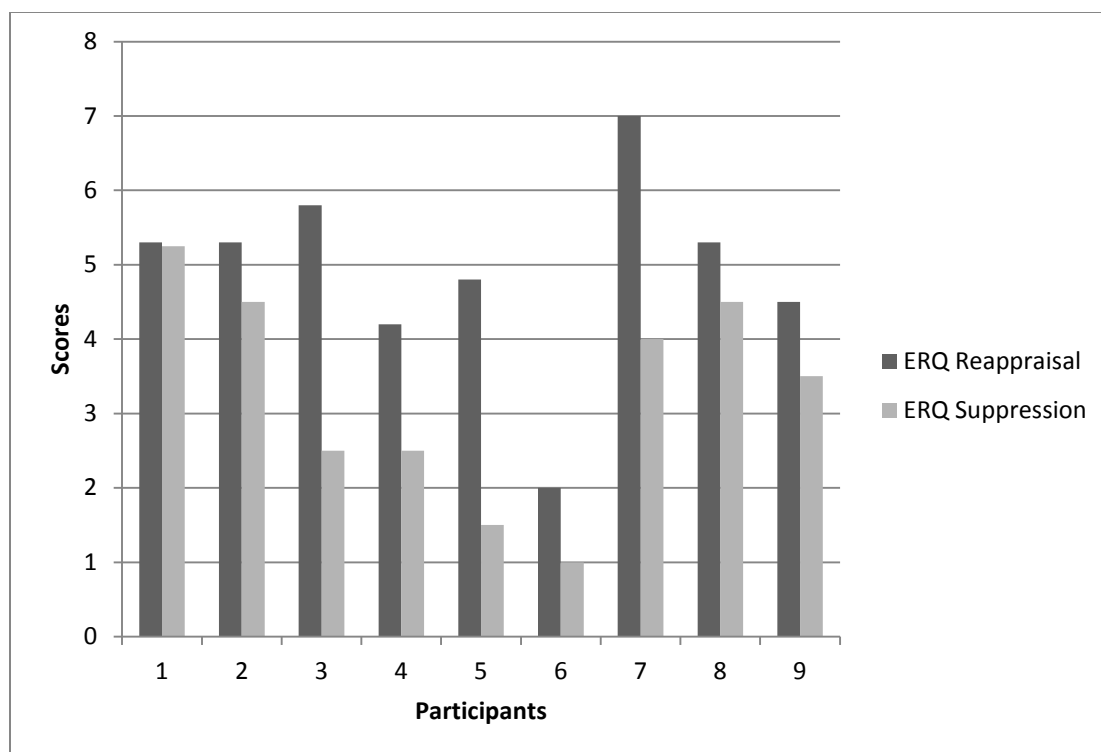


Figure 3. Participant Factor Scores on the Emotion Regulation Questionnaire.

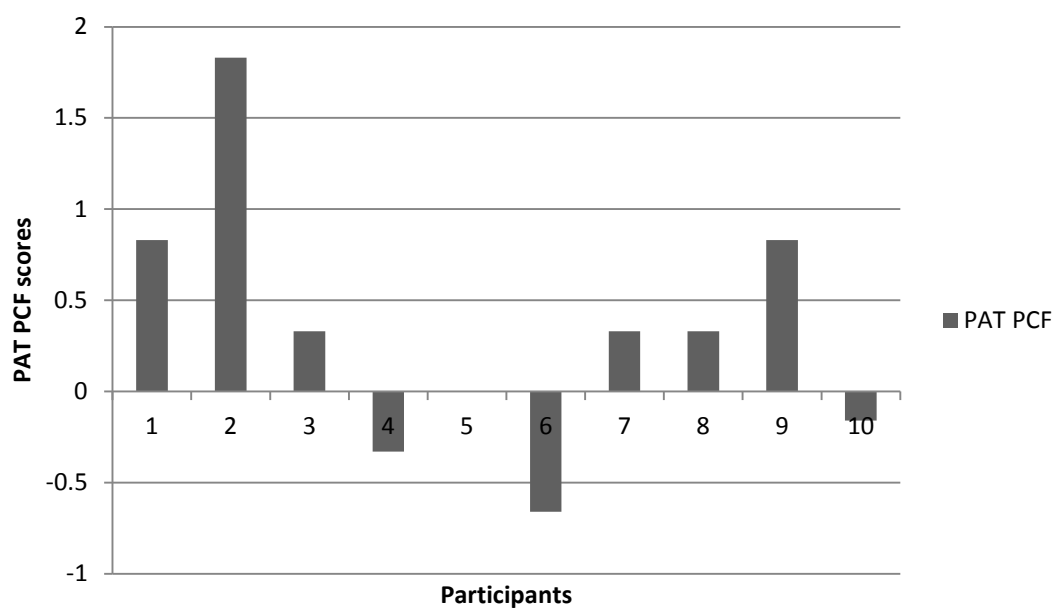


Figure 4. Participant Total Scores (PCF) on the Parent Attribution Test (PAT).

As can be seen from these graphs, there were several outliers in both of the measures. Thus, the median score is posted in the tables and indicates a closer comparison to the clinical sample scores. Second, though the three scales administered during the pilot study have been assessed and deemed not susceptible to social desirability, it is possible that the participants were answering in a socially desirable way. Last, given that there was a small sample size in the pilot study and some of the data on the PS may be invalid due to the incident involving the copying of answers, theoretical generalizations cannot be made.

To address these issues, several changes were made in the main study. First, the pilot study was not measuring change over time, so the addition of posttest measures addresses individual changes in participant scores. Second, the Marlowe Crowne (1)10 (MC; Strahan & Gerbasi, 1972) social desirability measure was added to the list of measures given at pretest (see Appendix L). Finally, since there was a potential invalidation of one of the measures, the consent forms and measures were given individually, rather than in a group format, for the main study. Since the sample size in the main study was similar to the pilot study, this was possible without too much extra effort. Dr. Andringa had the mothers complete the consent forms in a regularly scheduled parenting group. Mothers who wanted to participate in the study, but were not in the parenting group the day consents were given, were able to see Dr. Andringa or the researcher/facilitator individually to sign consent forms. All participants completed the measures individually.

The pilot study participants also provided valuable feedback on the measures given during the pilot. First, though a few suggestions were made, the participants rated all three measures favorably on the Likert scale, so using these three scales in the full study seemed reasonable. Because of a concern voiced by a participant, the word *disposition* on the PAT will be substituted for a more recognized word, *personality*.

Another limitation of the pilot study was the ordered administration of the scales. It's possible the PAT was rated more poorly because it was the first measure distributed. The participants might have rated it differently had it been the last measure presented. Thus, in the main study, the researcher/facilitator randomized presentation of the three measures to control for any ordering bias in the answers.

CHAPTER IV

RESULTS

As reviewed in the previous chapters, the current study assessed the impact of the COS-P program on participants in a residential treatment program for substance abuse. Grounded in SIP, three parenting factors associated with CM were evaluated both quantitatively and qualitatively. Further, the COS-P participants, staff, and researcher/facilitator provided feedback on the strengths and weaknesses of the COS-P program. In this chapter, the study participants, descriptive statistics, and the results from each research question are presented.

COS-P Participants

Two weeks before the start of the COS-P program, participants who were enrolled in the residential program were told about the beginning of an intervention study in their SACOT weekly parenting group. The following week, Dr. Kim Andringa, the senior research associate at the agency, came to the parenting group and gathered consents. Participants who were not able to be in the parenting group that day could see Dr. Andringa or the researcher/facilitator later in the week to join the study. Initially, 17 participants signed consent and took the pretest assessments. Two of these participants left the residential program shortly after completion of the pretests, so 15 participants were eligible to start the program. To ensure accurate feedback on the impact of COS-P, only participants who attended the majority (six out of nine; 66%) of the sessions were

eligible to be enrolled in the study. Nine participants attended at least six of nine sessions to be considered enrolled in the COS-P program, four participants attended three to five sessions, and two participants attended 0-1 session. Thus, the remaining results in this study are based on these nine COS-P participants and the other six participants are used as a comparison group for the three quantitative measures in the study as described in Chapter III.

The nine COS-P participants included seven (78%) Caucasian and two (22%) African American participants. Five participants (55.5%) reported a history of perpetrating CM with their own children, including two participants (22%) with open, active Child Protective Service cases. Three (33%) of the participants had a self-reported personal history of CM victimization when they were children. Education levels ranged from a ninth grade education to a graduate degree in law. Participants' ages ranged from 22 to 44 years. Three of the participants were pregnant with their first child, and the other six participants had children in their care that ranged from one month to six years. The average amount of time in the residential treatment program for these nine participants was 4 months (range: 1 month to 10 months; $SD = 2.88$). A summary of the participant demographic information is provided in Table 7.

Descriptive Statistics

Descriptive statistics for the study measures are listed in Table 8. These include the study participants' range of scores, means, and standard deviations on the pretest and posttest measures, the number of participants with reliable change from pretest to posttest

for each measure (i.e., significant RCI's), and the p levels for the Sign Test. Results are discussed according to each research question below.

Table 7

Demographic Description of Sample ($N = 9$)

Demographic Variable	<i>n</i>	%
Age		
22–33	5	55%
34–44	4	45%
Education Level		
Less than High School	3	33%
High School + some College	2	22%
Associates/Tech School Degree	3	33%
College Degree	0	0%
Advanced Degree	1	11%
Race		
African American	2	22%
Caucasian	7	78%
Months in Residential Treatment		
1–3	4	45%
4–6	3	33%
7–10	2	22%
History of CM with own children		
Yes	5	55%
No	4	45%
Personal self-report history of CM		
Yes	3	33%
No	6	67%

Table 8**Instrument Ranges, Means, Standard Deviations, RCI, and Sign Test ($N = 9$)**

Instrument	Observed Range	Pretest M (SD)	Posttest M (SD)	# of Participants with Reliable Change (RCI) Pretest to Posttest	Sign Test p-values
ERQ					
Suppression	1–4.75	2.94 (1.06)	2.78 (.79)	0	$p = 1$
Reappraisal	3.5–7.0	5.28 (1.05)	5.78 (.79)	1	$p = .508$
PAT PCF	-.33–1.33	.59 (.61)	.63 (.61)	1	$p = 1$
PS Total	1.6–3.5	2.68 (.49)	2.31 (.36)	3	$p = .039^*$
Lax	1.45–4.27	2.57 (.78)	1.98 (.47)	2	$p = .039^*$
Over Reactive	1.2–3.0	2.18 (.59)	1.93 (.41)	3	$p = 1$
MC	2.0–8.0	3.44 (1.77)	n/a	n/a	n/a

Note. ERQ=Emotion Regulation Questionnaire; PAT=Parent Attribution Test; PS=Parenting Scale; MC=Marlowe Crowne (1) 10 Social Desirability Scale; * = significant at or below $p = .05$.

Analyses of Research Question and Sub-questions

The purpose of this study was to answer the overarching question, “How did the COS-P program impact participants who were in a yearlong residential treatment program for substance abuse?” To answer this question, seven specific sub-questions were proposed. Utilizing the data summarized in Table 10, the results are reported below by research question.

Research Question 1

Research Question 1 asked how the COS-P program impacted the participants’ emotion regulation. The impact was analyzed both quantitatively and qualitatively.

Quantitatively, average ERQ scores for the nine participants indicate a small trend toward increasing reappraisal strategies (from 5.28 to 5.78) and decreasing suppression strategies (from 2.94 to 2.78) from pretest to posttest (see Figure 5).

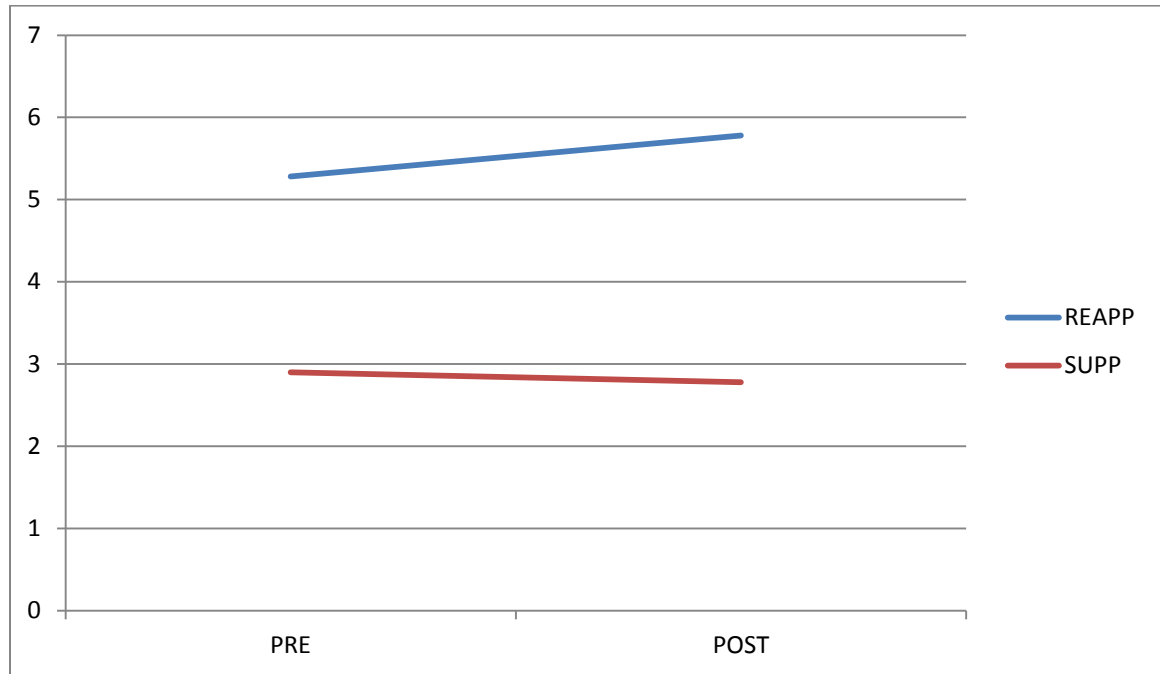


Figure 5. Mean ERQ Suppression and Reappraisal Scores ($N = 9$).

These mean scores were compared to the six participant's mean ERQ scores who did not attend the majority of the COS-P sessions. To examine potential dose effects, the six participants were broken into two groups: those that attended 0-1 sessions ($n = 2$), called the *No Attendance* group, and those that attended 3-5 sessions ($n = 4$), called the *Partial Attendance* group. Both the *No Attendance* and *Partial Attendance* groups had improved mean changes in reappraisal. On the suppression factor, the *No Attendance*

group had a small decrease in suppression and the *Partial Attendance* group had an increase in suppression.

For the ERQ, higher reappraisal scores and lower suppression scores are indicative of better emotional regulation strategies. On the reappraisal factor, five participants showed improvement, 1 participant stayed the same, and 3 had worse scores from pretest to posttest (Sign test $p = .508$). On the suppression factor, four participants showed improvement, 1 stayed the same, and four had worse scores (Sign test $p = 1$). One of the nine participants showed significant reliable change on the reappraisal factor ($RCI = 4.23$, $RCI > 1.96$, $p < .05$). Two of the *Partial Attendance* also had reliable change ($RCI = 2.38$ & 2.65 , $RCI > 1.96$, $p < .05$), but none of the *No Attendance* group members had reliable change on the reappraisal factor. None of the participants, nor any of the two comparison groups had significant reliable change on the suppression factor.

On the content analysis, twelve percent of the qualitative comments related directly to the participants' emotions. Another 16 of the secondary codes (53%) had emotion codes. Group participants commented that the COS-P program helped them "be more considerate of my children's emotions" and more "patient" with their children. Participants reported "less frustration" with their children. They also commented on how their emotions now connected to their personal histories. One participant commented, "I really think about the feelings that I was comfortable with or not comfortable with, because I'm not comfortable with [my son] sharing his hurt, because I've been so hurt in my life."

Research Question 2

Research Question 2 asks how the COS-P program impacted the participants' thoughts about the causes of their children's behaviors (i.e., attributions). Parental attributions are described as the perceived causes of successful and unsuccessful adult-child interactions (Bugental, 2011). The PAT PCF (Bugental, 2011) score was used to assess changes in the participants' attributions. The higher the PCF score, the less hostile the attribution and the less likely there will be future CM. Figure 6 shows the mean PCF change over time. There was a small mean increase in PCF scores, as the PCF increased from .59 to .63. From pretest to posttest, there were four participants with improved scores, two with the same scores, and three with worse scores (Sign test $p = 1$). One of the nine participants showed significant reliable change on the PAT PCF ($RCI = 2.22$, $RCI > 1.96$, $p < .05$). As a comparison, the *No Attendance* group means stayed the same from pretest to posttest. The *Partial Attendance* group showed mean improvements from pretest to posttest and one participant had reliable change ($RCI = 2.738$, $RCI > 1.96$, $p < .05$).

Qualitatively, the majority of the comments alluded to what the participants' in the COS-P program were thinking (i.e., cognitions). This includes the 74 (34%) consensus coded "C" comments and the 26 out of 30 (87%) of the two coded categories that had a "C" code as one of the two codes. Participant's commented that the COS-P program gave them "a new perspective" and they learned that there was "a lot happening [in the attachment relationship] that I didn't know about."

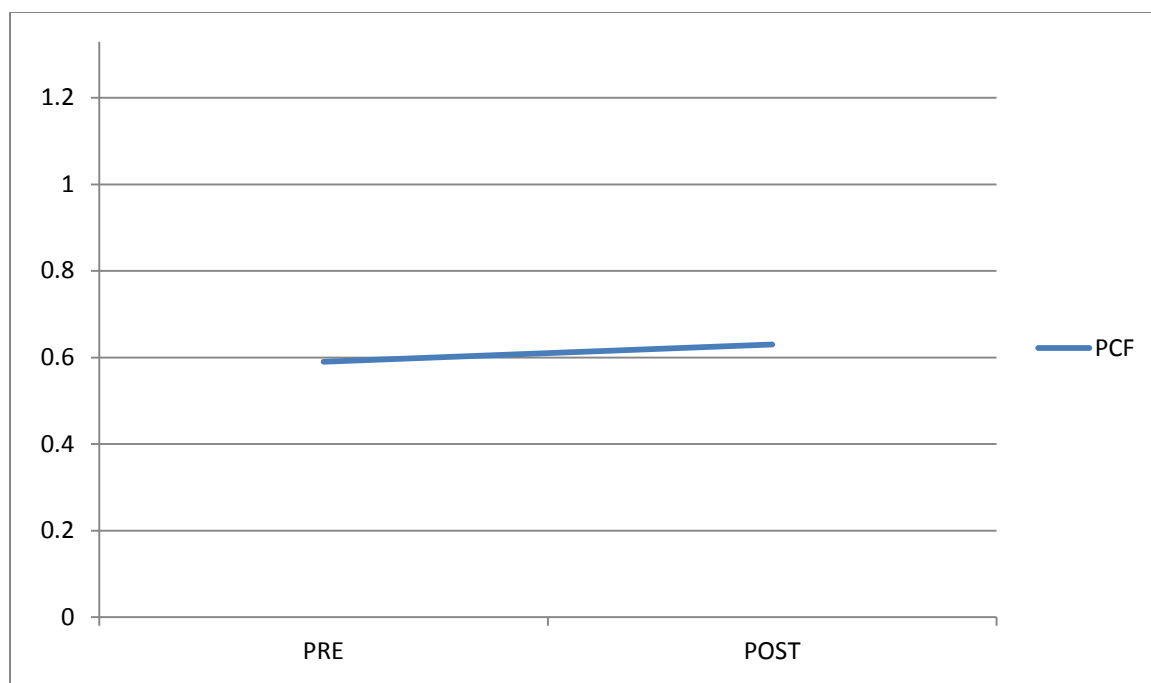


Figure 6. Mean PCF Change on the PAT ($N = 9$).

Research Question 3

Research question 3 addressed how COS-P impacted the participants' discipline practices. Discipline practices were measured with the PS, which has two factors, lax and over-reactive, and a total score. Figure 7 illustrates the participants' change over time. The participants' mean scores on the PS's total, lax, and over-reactive factors indicate improvement from pretest to posttest. On the lax factor, seven participants showed improvement, 1 stayed the same, and 1 had worse scores from pretest to posttest which was significant on the Sign test ($p = .039$). On the over-reactive factor, four participants improved, two stayed the same, and 3 had worse scores (Sign test $p = 1$). On the total score, seven participants improved and two had worse scores which was significant on the Sign test ($p = .039$).

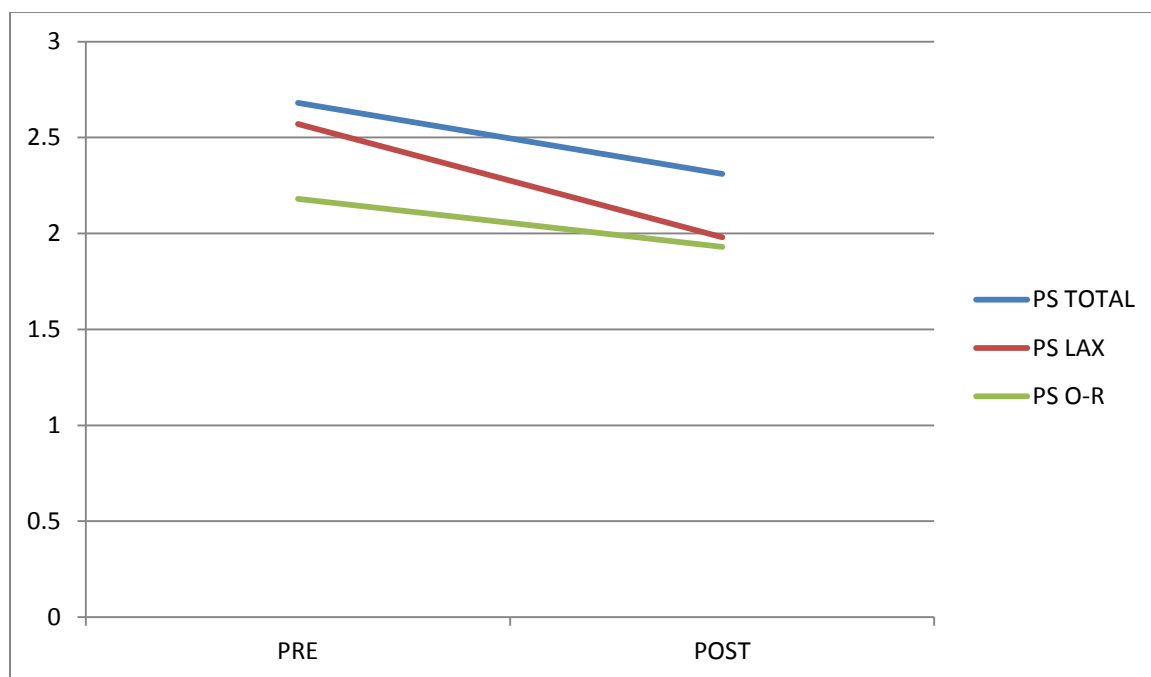


Figure 7. Mean Changes in the Parenting Scale Scores ($N = 9$).

RCI scores support this finding. The PS had the most participants with significant RCI's. The PS total (RCI's 2.17, 5.20, and 2.27, $\text{RCI} > 1.96$, $p < .05$) and over-reactive (RCI's 1.96, 3.64 and 1.96, $\text{RCI} > 1.96$, $p < .05$) factor had three participants with significant RCI's, and the PS lax factor had two participants with significant RCI's (RCI's 5.05 and 2.43, $\text{RCI} > 1.96$, $p < .05$). Interestingly, both the *No Attendance* and *Partial Attendance* groups had wide differences compared to the treatment group. On the Lax factor, both the *No Attendance* and *Partial Attendance* groups had worse mean scores from pretest to posttest, with one participant in the Partial Attendance group having reliably worse scores on the PS lax factor ($\text{RCI} = -2.57$, $\text{RCI} > 1.96$, $p < .05$). On the PS Over-reactive factor, the *No Attendance* mean scores got worse, with one participant with negative reliable change ($\text{RCI} = -2.78$, $\text{RCI} > 1.96$, $p < .05$), and the

Partial Attendance group mean scores stayed the same. On the PS total score, the *No Attendance* mean scores got worse and the *Partial Attendance* group mean scores got slightly better.

Regarding qualitative comments about participants' behaviors (B), 25 (11.4%) of the comments were single coded "B," and 12 (40%) of the two-coded comments included "B's." Participants commented that they were "practicing at home" the parenting skills learned in group and "being more attentive to certain interactions" with their children. One participant who was being criticized for picking up other resident's babies reported, "I learned that people can stop picking on me for spoiling the babies."

Participants particularly noted changes in discipline practices. One participant commented:

Before this group, she [her child] was going to get whoopings and that was it and you wasn't going to ever change my mind about that, but like [now] I'm willing to parent a different way or try different aspects and stuff.

Another participant reported that she learned "different ways to discipline besides whippings. I don't have to be like that."

Research Question 4

Research Question 4 pertains to how the COS-P participants' backgrounds, as reviewed from the participants' patient admission evaluations, impacted their experiences of the COS-P program. The participants' backgrounds were visually compared to their content analysis comments and their scores on the three quantitative measures. This yielded two findings. First, regarding the qualitative content analysis, the majority (74%)

of participants' statements assessed the COS-P program positively and only 1% of the comments were coded as negative. The negative comments conveyed that some participants wanted more time with the COS-P program, and therefore were not a direct criticism of the program. This suggests that COS-P was positively assessed by all the participants, regardless of their backgrounds.

Second, the participants' patient admission evaluations and their Marlow Crowne Social Desirability scores given at pretest were qualitatively compared to the results from their pretest and posttest scores. Participants ($n = 5$) who had significant RCI scores were visually compared to the participants ($n = 4$) who did not have significant RCI's on the variables of (a) history of CM with their own children, (b) personal history of CM, (c) number of sessions attended, (d) age, (e) number of children, (f) time in treatment, (g) education level, and (f) participant scores on the Marlowe Crowne Social Desirability Scale. Table 9 summarizes these differences.

The two groups had the largest differences on four of the above listed background variables: educational level, self-reported personal history of CM, time in treatment, and social desirability. First, the participants' education levels were grouped into two dichotomous groups: (a) post- high school education levels and (b) high school or less education levels. Four out of five participants in the RCI group (80%) had a post high-school education level that included some college education; whereas, only two participants (50%) in the non-RCI group had a post high-school education. The remaining two had a tenth-grade or less education level. Therefore, those participants who showed

more reliable change from the COS-P program generally had higher levels of education than those who did not have reliable change.

Table 9

Participant Background Characteristics between Reliable (RCI) and Non Reliable (non-RCI) Change Groups

Variable	RCI Group (<i>n</i> = 5)	Non-RCI Group (<i>n</i> = 4)	Percent Difference Between Two Groups
Education level (# with post high school education)	4/5 (80%)	2/4 (50%)	30%
History of CM with their own children (# yes)	2/5 yes (40%)	2/4 yes (50%)	10%
Personal history of CM (# yes)	1/5 (20%)	2/4 yes (50%)	30%
Number of sessions attended	<i>M</i> = 7 sessions	Mean = 7 sessions	0%
Participant age	<i>M</i> = 33	Mean = 31	6%
Number of children	<i>M</i> = 2	Mean = 2	0%
Time in treatment	<i>M</i> = 2.60 months	Mean = 6.0 months	43%
Marlowe Crowne Scores	<i>M</i> = 2.4	Mean = 4.75	51%

Participants also differed in their self-reported personal history of CM. One of the participants in the RCI group had a reported personal history of CM; whereas two (50%) of the participants in the non-RCI group did report a history of CM victimization on their

intake assessments. Therefore, having a personal history of CM was associated with less reliable change on the three parenting factors associated with CM measured in this study.

Participants also differed in the number of months in treatment. Participants in the RCI group had been in treatment an average of 2.60 months; comparatively, participants in the non-RCI group had been in treatment an average of 6.0 months. Generally, participants who had reliable change had been in the residential program fewer months, than those participants who did not have reliable change.

Finally, participants in the RCI group had lower social desirability scores at pretest than the non-RCI participants. The non-RCI group had mean scores nearly double the RCI group's mean scores, indicating that the non-RCI group participant's responses may be more biased.

In sum, four background variables were qualitatively associated with reliable change on the measures in this study. Having more education, no personal history of CM, less time in the residential program, and lower social desirability scores were associated with the reliable change group. The remaining variables, namely (a) history of CM with their own children, (c) number of sessions attended, (d) age, (e) number of children had either no or small differences between the RCI and non-RCI groups.

Research Question 5

Research question 5 concerns what the participants felt were the strengths and weaknesses of the COS-P program. Results for this question are garnered from two sources of qualitative data: the weekly check-in at the end of each group session and the focus group comments. From the data in Table 10, there were a total of 155 coded

comments of which 115 (74%) were coded as positive and only two (1%) were negatively coded. The remaining comments ($n = 38$; 25%) did not relate directly to the strength/weakness evaluation of the COS-P program but instead related other participant comments and the secondary coding on the parenting variables (e.g., “Like I said, I got whooping and we talked about it maybe later.”)

Table 10

Participant Qualitative Content Analysis Summary

Participant Content Analysis Data Consensus Codes¹		
Number of Coded Participant Comments	Number of Evaluative Comments (+, -, 0)[*]	Type of Comments (E, C, B, O)^{**}
Total $N = 155$ (Weekly Check in $n = 89$ And Focus Group $n = 66$)	+ = 115 - = 2 0 = 38	E = 23 C = 49 B = 21 O = 36 2 codes = 24 Non-consensus = 2

Note: ^{*}Evaluative comments about the COS-P program were categorized as + (positive), - (negative), or 0 (neutral or suggestion comment). ^{**}Participant comments were also coded according to the 3 parenting variables in the study- E (comments about the participants emotions), C (comments about the participant's thoughts or cognitions), B (comments about the participant's behaviors, discipline practices, etc.), O (other comments/suggestions). Due to the overlap between constructs and participant sentences that had more than one construct, the team decided during the training meeting to allow for more than one code if needed (i.e., C/E). ¹One unit = one sentence.

Both comment sources were further analyzed for emergent themes by the three content analysis coders. The coders found 6 emergent themes in the COS-P participant data: *DVD Format, New Information, Facilitator Effect, Group Support, Time, and Environmental Issues*. The first five out of the six emergent themes in the participant addressed the COS-P program. The final theme in the participants' comments,

Environmental Issues ($n = 3$), addressed participant concerns about the room where the COS-P program took place (e.g., “This room. We need a room change” and “It’s always hot”), so it does not directly address a strength or weakness of the COS-P program, although they do indicate that the environment in which the program is held can impact participants’ experiences of the program.

The *DVD Format* ($n = 7$ comments) theme included comments specifically about the COS-P DVD. For example, one participant stated, “I liked the DVD.” Another stated, “I liked you stopping and pausing [the DVD] to show us every little scenario.”

The *New Information* ($n = 11$) theme relates to several comments from participants that indicated they were learning parenting information they had never heard before. For example, one participant remarked in response to the researcher/facilitator question what did you get out of group today, “There’s a lot happening I didn’t know about!” Another added, “I liked the Shark Music. I didn’t know that.”

The *Facilitator Effect* ($n = 7$) theme involved comments that specifically refer to the researcher/facilitator’s skills in the group COS-P session. When asked what she liked about the group session, one participant stated, “I really like the way, I mean, you kept it interesting, very dynamic.” Another participant remarked, “I like how you stopped and talked with us about everything that’s going on.”

The next theme, *Group Support* ($n = 8$), referred to participant comments that addressed the support shared between group members during the COS-P program. When asked what they liked about the group session, one participant recalled a time in the COS-P group where one participant was having a difficult time with a parenting issue and the

group provided feedback to her, “I like that [the mom] shared . . . Someone needed to tell her it was alright to leave. It was good to break it down for her and provide support.” At other times, the participants shared books they liked, or gave ideas on how they had handled parenting situations successfully.

The final theme addressing the COS-P program was *Time* ($n = 3$). One participant reported that she wanted more time with the material: “Is there going to be like another level to it or do you think we’ll be able to take it again or like a part two or something because I’m sure there’s a lot more to learn. Isn’t there?”

The focus group also contained an explicit question about the strengths and weaknesses of COS-P. The main strength reported by the participants was that COS-P sends an explicit message that parents can help them repair their relationships (i.e., fix the attachment disruptions): “So whatever we were doing wrong prior to this or not quite right, I hate to use the word wrong, like thank God that it can be changed. It’s not like it’s so far gone that we can’t repair it.” Several participants concurred with the above participant’s statement, “That says it all.” One other strength noted was that COS-P material was interesting and engaging to the participants. Even though the sessions held after lunch, the program still held the participants attention:

Because it was so interesting. I think even like a normal class that we might be in here nodding off in. Like, I just didn’t feel like people were as sleepy during this class, and after lunch too, but we just stayed so engaged. I think because everybody was just so interested in the class . . .

As also discussed in relation to the *Time* theme, the only weaknesses noted by two participants was that the eight week COS-P program was not long enough (i.e., “not enough,” and “need longer. It could have been a little longer.”).

Research Question 6

Research question 6 pertains to staff members’ perceptions of the impact of the COS-P program on their work with the participants. As summarized in Table 11, nine staff members completed the COS-P survey (Appendix J) which yielded 46 coded comments. Of note, 100% of the comments were positive. One staff member stated that the COS-P program “increased [the participant’s] awareness about their attachment relationships with their children . . . and improved their parenting skills (attentiveness) with their children.” Another staff member stated that the impact of COS-P on the agency was “positive! I believe this intervention was encouraging and empowering to our women.”

Staff comments also reflected two emergent themes: *Expansion of the COS-P Program* ($n = 2$) and *Facilitator Effect* ($n = 2$). In the *Expansion of the COS-P Program* theme, two staff members explicitly asked that the COS-P program be expanded to a satellite location on a regular basis and also be brought back to the residential program in the future.

Facilitator Effect, an emergent theme also noted in the participant comments, had two comments. Staff members remarked that the participants felt the “researcher/facilitator was excited about the material and was engaging and dynamic” and “the leader is great and gives us all a lot of support.”

Table 11**Staff Qualitative Content Analysis Summary**

Staff Content Analysis Data Consensus Codes¹		
Number of Coded Staff Comments	Number of Evaluative Comments (+,-,0)[*]	Type of Comments (E, C, B, O)^{**}
<i>N</i> = 46	+ = 46 - = 0 0 = 0	E = 2 C = 21 B = 4 O = 15 2 codes = 4

Note: ^{*}Evaluative comments about the COS-P program were categorized as + (positive), - (negative), or 0 (neutral or suggestion comment). ^{**}Participant comments were also coded according to the 3 parenting variables in the study- E (comments about the participants emotions), C (comments about the participant's thoughts or cognitions), B (comments about the participant's behaviors, discipline practices, etc.), O (other comments/suggestions). Due to the overlap between constructs and participant sentences that had more than one construct, the team decided during the training meeting to allow for more than one code if needed (i.e., C/E). ¹One unit = one sentence.

Research Question 7

Research question seven explores how the researcher/facilitator noted the impact of COS-P on participants. The researcher/facilitator provided 18 comments that were reflective thoughts after individual COS-P group sessions. The majority of the comments were positive ($n = 11$; 61%; see Table 12). The researcher/facilitator commented that the participants were “engaged,” “insightful,” and “supporting each other” during the group sessions. The remaining comments ($n = 7$) related to concerns about and suggestions for the COS-P program. These negative comments reflected concerns about having enough time to get through the content and addressing group attendance issues.

The coders found four emergent themes in the 18 researcher/facilitator comments: *Time* ($n = 6$), *New Information* ($n = 3$), *Attendance* ($n = 2$), and *Group Support* ($n = 1$).

Regarding the *Time* theme, the researcher/facilitator commented that she needed “more time with” or “felt rushed” in sessions 3 through 7. The *New Information* theme included comments about how much “new information” the participants were receiving in the session and that some of this information was “confusing for parents” at first. Group *Attendance* was also a concern. The researcher/facilitator noted that it “was hard to keep everyone caught up” on the new concepts when participants were intermittently attending group sessions. *Group Support* was a theme also found in the participant group. The researcher/facilitator made note that the participants were “supporting each other” in practicing concepts from the COS-P program both in and outside of the group sessions.

Table 12

Researcher/Facilitator Content Analysis Summary

Content Analysis Data Consensus Codes¹		
Number of Coded Researcher/Facilitator Comments	Number of Evaluative Comments (+,-,0)[*]	Type of Comments (E, C, B, O)^{**}
N=18	+ = 11 - = 7 0 = 0	E = 2 C = 4 B = 0 O = 9 2 codes = 2 Non-consensus = 1

Note: ^{*} Evaluative comments about the COS-P program were categorized as + (positive), - (negative), or 0 (neutral or suggestion comment). ^{**} Participant comments were also coded according to the 3 parenting variables in the study- E (comments about the participants emotions), C (comments about the participant’s thoughts or cognitions), B (comments about the participant’s behaviors, discipline practices, etc.), O (other comments/suggestions). Due to the overlap between constructs and participant sentences that had more than one construct, the team decided during the training meeting to allow for more than one code if needed (i.e., C/E). ¹One unit = one sentence.

Summary

The purpose of Chapter IV was to review the qualitative and quantitative results from the study. The broad research question was how does the COS-P program impact participants who are in yearlong residential treatment for substance abuse. Seven sub-research questions provided an in-depth analysis of this overarching question.

Descriptive data were presented about the sample of participants in the study, and quantitative summaries of instruments and the content analysis were provided.

Qualitative quotes from the participants were also reported. The participants' patient admission evaluations were reviewed and compared to other collected data sources.

The sum of these analyses provides a rich understanding of how COS-P impacted the participants. In general, the COS-P program was viewed positively by the participants, staff and researcher/facilitator (78.5% positive comments), and the primary concern regarding the COS-P program was not having enough time with the curriculum. For some participants, the COS-P program also seemed to positively support changes in the three parenting factors associated with CM that were measured in this study, especially as measured on the PS. The participants' emotion regulation, parental attributions, and parenting discipline practices all showed mean improvement from pretest to posttest, two of the factors on the PS had a significant ($p = .039$) number of participants with improvement, and four of the nine (44%) participants showed some reliable positive change on at least one of these parenting factors.

Some background variables were reviewed to explore their potential impact on the outcomes. The participants' educational levels, personal histories of CM, and time in

treatment may have influenced the reliable changes on their emotion regulation, parental attributions, and parenting practices as measured in this study. Given the small sample size in this study, these results are exploratory in nature; however, this is the first study to date to examine the newly published, shorter COS-P program. The next chapter discusses these results and their implications for counselors working with similar populations.

CHAPTER V

DISCUSSION

Overview of Study

The purpose of this study was to examine the impact of an attachment-based parenting program on participants who are in a yearlong, gender specific, substance abuse treatment program. The parenting program, COS-P, is a shortened version of the original 20-week, attachment-based, Circle of Security intervention that has received empirical support and is listed as a promising research evidence program (California Evidence Based Clearinghouse for Child Welfare, 2013). Until this study, researchers had not empirically examined the shorter, eight-week, COS-P program. Utilizing action research methodology, seven research questions were examined qualitative, quantitative, and secondary data sets. In this chapter, the results from Chapter IV are discussed, as well as study limitations, the implications for counselors and counselor educators, and directions for future research.

Discussion of Results

Changing Parental Risk Factors for Child Maltreatment

Research questions one through three addressed the pretest to posttest changes on three parenting factors: emotion regulation, attributions, and discipline practices. As reviewed in Chapter II, these three variables are grounded in both SIP and attachment

theory and are parental factors associated with CM. They are also explicitly stated goals of COS-P (Cooper et al., 2009) that had not yet been empirically assessed.

The quantitative results reviewed in Chapter IV indicate that the overall mean scores for these nine participants changed in positive directions from pretest to posttest on all three parenting factors (i.e., emotion regulation, attributions, and discipline practices). Further, several participants showed reliable change from pretest to posttest indicating that their changes may be true changes and were not due to measurement error alone (Jacobson & Truax, 1991) and one measure had a significant number of participants with improvement.

The highest number of participant reliable changes, and the only measure that had a significant number of participants with improvement, was seen on the Parenting Scale (PS), a well-known measure of parental discipline practices (Arnold et al., 1993). There was also a wide disparity between the treatment group and the two comparison groups on the PS, with some participants in the comparison groups getting significantly worse. The fact that the PS's over-reactive ($n = 3$) factor had the most participants with reliable change is noteworthy. Harsh discipline practices are one of the most frequently cited parenting factors associated with CM (USDHHS, 2012) and insecure/disorganized attachment (Baer & Martinez, 2006; Kochanska et al., 2009). Further, maternal substance abuse is associated with harsh discipline (Child Welfare Information Gateway, 2009; Tarter et al., 1993). Thus, three participants in this study improved most reliably on a parenting factor frequently associated with CM, attachment insecurity, and parental substance abuse.

Participants ($n = 2$) also had reliable change on the lax factor of the PS. Nearly all ($n = 7$) participants improved on this factor. Lax parenting is characterized by “not following through and giving in to child misbehavior” (Lorber & Slep, 2005, p. 561). Though not as well validated as the harsh parenting literature, lax parenting is associated with child behavior problems and maternal substance abuse (Lorber & Slep, 2005; Mayes & Truman, 2002). In many cases of CM, both lax and harsh discipline practices are present as parents vacillate between both parenting practices (Rodriguez, 2010). Thus, some of the participants in this study improved on both problematic parenting practices.

These changes in parental discipline practices are also of particular interest because, unlike other parenting programs, the COS-P program does not teach or address discipline techniques directly; instead, COS-P addresses the parent-child relationship and encourages parents to “always be bigger, stronger, wiser and kind” (Hoffman et al., 2006) in their relationships with their children. This finding is supported by the recent research that found that parenting programs that contained instructions on parental emotional communication skills and positive parent-child interactions had larger effect sizes as compared to programs that focused on discipline practices, problem solving, cognitive/academic skills, or social skills (Kaminski et al., 2008).

Participants also showed small mean improvements in their attributions and emotion regulation and some had reliable change. Though none of these factors had a significant number of participants with improved scores, the qualitative content suggests that the participants were definitely thinking about their and their child’s emotions and cognitions. The participants commented most frequently on their thoughts (i.e.,

perceptions or cognitions) and second most frequently on emotions. All of these factors are associated with less biased social information processing. Social Information Processing (SIP) theory and intervention data (Dodge, 2011) suggest that an individual's emotions and cognitions are precursors to their aggressive behavior; therefore, it is plausible that even the small changes in participants' emotional regulation and attributions can yield positive changes in parental discipline practices. This is consistent with recent findings on SIP interventions, which suggest that adding SIP processes, such as anger management and attribution retraining, to group-based parenting programs consistently strengthened the effect sizes of the parental discipline practice outcomes (Wiggins et al., 2009).

It is interesting to note that the participants' mean pretest scores on all three quantitative measures were similar in range to previously published non-clinical group scores (see Table 5 and Table 10), despite the documented risk factors of this participant sample. Since we do not know what the participants would have scored on these measures prior to entering treatment for their addiction, one possible explanation is that the comprehensive residential treatment had already had an impact on their emotion regulation, attributions, and discipline practices. Another possible explanation is that participants who commit to a year of intensive treatment may differ clinically from mothers who are still high risk, but more reluctant to begin intensive treatment.

These quantitative and qualitative findings lend preliminary support to COS-P's effectiveness at impacting three parenting factors associated with CM, particularly parental discipline practices. This is notable because it was unclear if COS-P in its

condensed version could impact change as effectively as the more intensive Circle of Security intervention that had 20 weeks of group and individualized treatment and dyadic interactions that were videotaped and painstakingly reviewed by the facilitators. It also supports other recent researcher's findings that show that shortened versions of a home visiting model of Circle of Security also were effective (Cassidy et al., 2011). Thus, the results of this study lend exploratory support to COS-P's effectiveness with some participants at reaching the program's explicit goals of impacting emotion regulation, attributions, and parental discipline practices with mothers in residential treatment for substance abuse.

Background Variables That May Influence Change

Research question four pertained to how the participants' backgrounds impacted their experiences of the COS-P program. In Chapter IV, the nine COS-P participants were grouped into two groups: (a) participants who had reliable change (i.e., those that had change that was greater than chance) on the quantitative measures, and (b) those that did not. The participants in the reliable change group had qualitatively noticeable differences on four background variables (educational level, self-reported personal history of CM, time in treatment, and social desirability). In other words, having more education, no personal history of CM, less time in the residential program, and lower social desirability scores were associated with larger changes on the quantitative measures. In contrast, having less education, a personal history of CM, and more time in the residential program were associated with the smaller changes on the quantitative measures.

The first two background category findings are in line with current research on CM. Regarding participant education levels, researchers have consistently found that higher parental education levels are a protective factor against CM (Child Welfare Information Gateway, 2012). Participants with higher education levels may have been able to pick up the COS-P content more quickly than the participants with lower education levels. Participants with lower education levels may benefit more by having more time with the COS-P curriculum. The developers of the COS-P program contend that this is a universal parent curriculum, specifically designed for wide dissemination across broad populations, and they give facilitators the leeway in determining how fast or slow to go with the material (Cooper et al., 2009). However, the current study examined the curriculum based on an eight-session format, so even though the researcher/facilitator could have slowed the curriculum down and extended the program, she was most interested in seeing how the curriculum in its original form impacted participants in their applied setting.

The findings from Chapter IV also indicate that mothers with personal histories of CM had less reliable change than those that did not self-report a personal history of CM. As reviewed in Chapter II, researchers have determined that having a parental history of CM is often, but not always, associated with later CM with one's own offspring (Appleyard et al., 2011; Egeland et al., 1988). Researchers also have discovered that having a personal history of CM can impact stress reactivity, mental health, and adult attachment, which can lead to more inaccuracies in identifying their child's emotions (Child Welfare Information Gateway, 2008a; Leerkes & Siepak, 2006). For example,

Dodge (2011) measured SIP patterns in children exposed to CM in the first five years of life. He found that these children had biased SIP patterns that predicted aggression years later in early adulthood. Thus, it is possible that participants with a history of CM may have more ingrained SIP processes that require programs with more than eight sessions (e.g., those that provide more time and practice with the material) and/or require individualized follow up as seen in the original, longer Circle of Security intervention. The developers of COS-P note that the curriculum is not a therapeutic intervention, as the original Circle of Security is; instead, it is framed as a parent education tool that can be used as a starting point for more in-depth therapeutic interventions (Cooper et al., 2009). Therefore, the authors might contend that caregivers with more pronounced needs would need more therapeutic follow-up to address specific parent-child attachment needs.

The finding that having less time in the residential treatment program was associated with more reliable change may be due to programmatic requirements at the agency. As discussed in Chapter III, the state agency where the COS-P took place has three levels of treatment. First, there are five days a week of treatment for the first 80 days in the program. After successful completion of the 80 days, residents are then transitioned to 3 days of treatment and 2 days of work or school placement which typically lasts for another 24 days. Finally, residents are able to pursue work or school full-time. For many residents, the first phase of residential treatment is intense and often is the first time they have parented their child while not under the influence of their addictive substance. It is the impression of the researcher/facilitator that many program participants are often intensely interested in knowing how to be an effective parent, and

this may be due to a desire to make up for time they were not available to their children. Thus, they may have been more committed to attending the COS-P program. Residents who have made it to the later phases of treatment have often figured out how to cope with parenting in recovery and may be less vested in learning new parenting skills as they transition to work.

Finally, the finding that the non-RCI group had higher mean social desirability scores as compared to the RCI group may call into question the validity of the comparisons. If the non-RCI groups self-report scores on the pretests and posttests were more biased, then the RCI calculations would also be biased. Though neither groups had particularly high MC scores, the increase in social desirability scores in the non-RCI group may have influenced the findings. Given that this research question is exploratory in nature and has a limited sample, all results should be interpreted with caution.

At times, attachment researchers have debated whether long (52 weeks) or moderate (16 weeks or less) in duration attachment interventions are more successful at impacting attachment security and maternal sensitivity (Bakermans-Kranenburg et al., 2003; Berlin, 2005). For example, Greenberg (2005) argued “that the issues of more or less cannot be understood in the abstract, but only as contextualized within populations” (p. 332). In other words, researchers must examine parenting programs within and between populations to determine which factors affect treatment outcomes. Though this is a small, exploratory review of background variables in one high-risk population, it may guide future attachment program researchers as they determine which sub-groups may need more intensive treatments. At this point, the results of this study suggest that some

subsets of high-risk populations (i.e., those with lower education levels and personal histories with child maltreatment) may need and want more than eight sessions or individual follow-up sessions with the material, or both.

Strengths and Weaknesses of Circle of Security-Parenting[®]

Research questions five through seven specifically addressed how the COS-P participants, group facilitator, and agency staff members viewed the COS-P program's strengths and weaknesses and impact on the participants. These multiple viewpoints were vital to the action research methodology (Riel, 2010). With roots in social justice, action research methodology posits that research is not done *on* participants but *with* participants to gain a collaborative understanding of how an intervention is received in an applied setting (O'Brien, 2001). The multiple viewpoints bring rigor via triangulation to validate study findings (Guiffrida et al., 2011; Stringer, 2007).

Overwhelmingly, the COS-P program was positively received by all three groups of stakeholders. The main strengths of the program include the following features of COS-P's programming: (a) a supportive and engaging curriculum, (b) an up-to-date DVD format, (c) a flexible weekly session format, which includes a mix of paused time for processing and visual examples of parent child interactions, and (d) novel parenting information. In other words, participants liked the COS-P curriculum. They stayed engaged throughout COS-P because it provided them with parenting information they had not heard before and because the information was presented with well thought-out and executed graphics and scenarios. They also may have stayed engaged due to the deliberate variety built into the program. Concepts were presented visually, addressed

verbally by the facilitator through paused discussions, and reflected upon by the participants; therefore, the intervention incorporates a variety of validated adult teaching and learning strategies to deliver its content (Knowles, Holton, & Swanson, 2005). The participants relayed their enthusiasm to staff members who work with the participants and which impacted staff assessments of the COS-P program.

Another strength noted by the participants and the staff was the *Facilitator effect*, a theme described in Chapter IV. Berlin (2005) suggests one of the main theory- and research-based tasks of any attachment-based program is that “the therapist, or intervener, serve as a ‘secure base’ (Bowlby, 1988) for the parent so that the parent’s secure attachment to the therapist becomes the key agent of therapeutic change.” (p. 7). In fact, one of the main goals of the first COS-P session is to help the “participants in the group to begin to experience the facilitator as a secure base which provides both a safe and exciting context in which to explore parenting” (Cooper et al., 2009, p. 4). Throughout the COS-P manual, facilitators are given notes containing instructions on how to help participants feel safe discussing the attachment concepts (Cooper et al., 2009). Addressing facilitator reflection and group dynamics is also a part of the four-day facilitator training to become a registered COS-P facilitator. Therefore, the COS-P program builds facilitator support into the fabric of the curriculum. The researcher/facilitator who led this COS-P program study has over 20 years of experience as a counselor, group facilitator, and parent educator, so it also is possible the comments are a reflection of her presence and experience in the group. More studies are needed

with other group facilitators to determine if this finding holds and is a reflection of the COS-P program rather than this particular facilitator.

A final strength noted by participants was the theme *Group Support*. Participants frequently commented that they liked hearing and sharing parenting stories from their peers and helping one another. This is a common finding in the group counseling literature, and there is a plethora of research documenting the importance of this therapeutic group factor (Yalom & Leszcz, 2005). Further, researchers have found that group-based parenting programs are particularly useful for parents at risk for CM (Azar, 2002; CDC, 2008; Milner & Dopke, 1997) and for women in substance abuse treatment (Ashley et al., 2003).

Participants also felt the COS-P curriculum was supportive, empowering, and gave them hope in their ability to repair relationships with their children. COS-P strives to be supportive and non-judgmental of caregivers. From the very first COS-P session, the DVD and manual address parental guilt by telling parents “it’s never too late” to have a healthy relationship with their children (Cooper et al., 2009; p. 6). Other researchers have similarly found that participants experience the Circle of Security intervention to be nurturing and supportive (Cassidy et al., 2010; Lee et al., 2010). This is crucial when working with mothers in substance abuse treatment as they often experience overwhelming parenting guilt (Ashley et al., 2003).

Only one weakness was described by two of the groups. Both the COS-P participants and the group researcher/facilitator noted the need for more time with the COS-P material. Thus, one of the main concerns is that the 8-session format may not be

adequate in length for this population. This aligns with the findings just reviewed above that posit that more time might be needed for some subsets of this high risk population, namely those with lower education levels and a personal history of CM. Cassidy et al. (2010) used an expanded Circle of Security intervention that lasted 15 months with a similar population and found it was able to impact infant security and maternal depression. Perhaps more sessions would be helpful for some mothers in residential treatment for substance abuse.

Fortunately, the COS-P program was designed to be flexible, so this “weakness” is easily overcome. The COS-P authors indicate the program can be used in multiple settings, including in home settings, individual treatment, or in community groups. Therefore, the registered COS-P facilitator has the ability to pace material as needed (Cooper et al., 2009). For this study, the COS-P program was inserted into the agency’s group parent education slot that was 1.5 hours in length. The COS-P manual recommends group sessions be 1.5 to 2 hours, so other facilitators may find that longer or more sessions are useful for some high risk populations. Further, as discussed above, adding individualized follow up might be important for some parents.

Summary of Research Findings

The results from this action research study indicate that the COS-P program had an impact on the nine participants who attended the majority of the program sessions. Overall, participants showed mean improvements from pretest to posttest on three parenting risk factors associated with CM (i.e., emotion regulation, hostile attributions, and harsh discipline practices). Participants had reliable change on all three measures

and parental discipline practices significantly improved in two areas. The participants and other stakeholders in the agency positively assessed the program, and asked for more time with the curriculum.

One of the goals of an action research study is to determine if the action step was successful and whether or not the action step should be continued in the setting (Riel, 2010; Stringer, 2007). Therefore, part of the data analyses involved determining if the COS-P program seems appropriate to continue in the residential treatment program (O'Brien, 1998). Since some of the participants showed improvement on the three parenting factors, and all stakeholders felt the COS-P curriculum positively impacted the residential program, it was decided by the managers at the agency that the COS-P program would continue on a regular basis. Given the time concerns presented by the facilitator and some participants, it was decided to lengthen the COS-P program from 8 to 16 sessions. The researcher/facilitator determined she could easily slow the sessions down to allow more time for (a) group processing of comments, questions, and reflections, (b) review for participants who miss occasional sessions, and (c) addressing applied application of concepts. In essence, each of the 8 original sessions outlined in the curriculum will be covered over two actual sessions with clients for future implementations of the program in this agency. This brings the program closer to the 20 group sessions in the original COS model, but without the individual videotaping and scoring of the dyads.

Limitations

Given that this was an exploratory study with a small sample size, several limitations must be noted. First, there were potential threats to internal validity, because the mothers were in a treatment program that provides a myriad of services, and there was no control group in the study to control for these confounds. It is possible that just being in a supportive residential program accounted for the changes across time. Thus, causation cannot be inferred from the data results. Given that the study utilized a small, convenience sample, rather than a randomized sample, the study's results cannot be generalized to a broader population.

Second, in action research methodology, the researcher acknowledges that bias exists and takes steps to prevent bias, while also understanding that there always will be some bias inherent in every study (Riel, 2010). There were several places where bias may have been introduced during the COS-P program study. As the researcher was also the group facilitator, subtle bias could have influenced the researcher/facilitator's responses to the participants during the COS-P sessions and biased the participants' responses during data collection. Further, as the researcher/facilitator also worked at the agency, her comments outside of the COS-P sessions to staff and participants could have introduced bias. Last, since the client and staff participants received a small gift (\$10 gift card) for completing the study measures and COS-P sessions, it is possible that these participants felt some obligation to like the program, despite instructions to the otherwise. This could have biased the staff and participant qualitative comments. The third limitation of this study was that it relied on qualitative and quantitative self-report

measures and secondary demographic data to examine the program outcomes in the participants, rather than using any observational assessment methods. Thus, we do not know if the COS-P program actually changed any parenting behaviors in day-to-day parent-child interactions.

Relatedly, it is unknown how potential participants who elected not to participate in the study differed systematically from those who did participate. For example, two group members who started the study abruptly left the residential program near the beginning of the COS-P program and moved across the state. As such, we do not know how these participants differed from the other participants who stayed in the residential treatment program. We also do not know how other similar populations would respond to the COS-P program, such as mothers who are in outpatient (vs. residential) substance abuse treatment and fathers who are in substance abuse treatment.

Implications for Counseling

This study's findings have several implications for counselors, counselor educators, and other practitioners who work with similar populations. First, counselors and practitioners who work with parents have further preliminary evidence that the Circle of Security intervention broadly, and the COS-P program specifically, are viable options for high-risk parents. Given that the COS-P program is cost effective, has a shorter facilitator training requirement, and has an easy-to-use manualized DVD format, as compared to the original 20-week Circle of Security intervention, COS-P is an important program to add to the list of attachment-based parenting programs. COS-P is also the only group-based attachment program available in a manualized, multi-lingual format,

which dramatically increases its ability to be disseminated to a broader audience. COS-P's flexible scheduling offers counselors and parent educators the opportunity to tailor the program to various community sub-populations.

Given that substance abuse is among the most common parenting factors associated with CM (Goldman et al., 2003; Locke & Newcomb, 2003; Suchman et al., 2006), substance abuse counselors and programs need access to manualized parent education programs for mothers and fathers who need support in their parenting. Since the COS-P program was so well received in this study, COS-P could be an important option for these community settings. The participants in this study commented that the manner in which COS-P addresses parenting (i.e., talking about parenting using attachment language and concepts) was new to them. Given the high rates of insecure attachment in children from these families, researchers have long argued that parents in substance abusing families need attachment-based programs (Suchman et al., 2006) Thus, the COS-P model provides important new parenting information that may have implications for child attachment security and therefore, long-term developmental outcomes for children in high risk families.

Finally, this study provides information for counselor educators who teach courses in substance abuse, counseling children, and life span development. Given the intergenerational connections between CM, substance abuse, and future CM (Appleyard et al., 2011), each of these courses could integrate information on the impact of CM on multiple areas of child and adult mental health. Recognizing that CM impacts future

generations and that there are viable, accessible, evidence-based programs that can help address CM can aid in mental health prevention and treatment.

Future Research

Future research could build on the exploratory findings in this study. First, researchers could address the threats to internal validity in the current study. For example, increasing the sample size and adding randomized selection and assignment to a control and treatment group could increase the confidence in the findings. Given that residential substance abuse treatment programs vary widely and are often limited in size, this may require a large-scale study across several residential programs.

Second, future researchers could add other pretest and posttest measures to determine if the reliable change seen in the participants holds across other relevant types of measures. For example, observational measures of the participants' parent-child interactions both before and after the COS-P program could be added. Further, adding attachment measures, such as the Ainsworth Strange Situation Protocol (Ainsworth et al., 1978), to the current SIP measures may help elucidate the connections between SIP and attachment theories (Dykas et al., 2011). Assessing for child outcomes, as other Circle of Security studies have done, could also expand our knowledge of COS-P program's impact on families. Further, researchers have begun using biomarkers for stress and emotion regulation that could provide valuable information on the impact of the COS-P program. One approach would be to test parent and child cortisol levels during pretest and posttest parent-child interaction observations.

Third, to address potential bias, future research studies could examine the COS-P program with a separate group facilitator and researcher. The developers of COS-P now provide facilitator trainings across the world. The COS-P DVD has been translated into Spanish, Italian, and Japanese. Researchers with a larger, grant-funded study could use separate researchers and COS-P facilitators across a broad number of cultures and populations to determine COS-P's effectiveness.

For this researcher, the next step includes a study with mothers in outpatient substance abuse treatment in a nearby city. This would eliminate potential bias from the researcher/facilitator also being on staff at the agency and from the participants living together in a residential location, and it also would allow for a waitlist control group. Finally, it would be worthwhile to add longitudinal follow-up of group participants to determine if these exploratory findings hold over time. Though more validation is needed, researchers have determined that parenting interventions can be effective at promoting sustainable changes in child and parent outcomes and reducing the rates of CM within participant samples (Mikton & Butchart, 2009; Wiggins et al., 2009). However, there have been no longitudinal studies on any of the Circle of Security interventions. Researchers need to confirm if COS-P and other Circle of Security interventions can maintain the intervention gains over time and determine if they can reduce rates of CM.

Conclusions

CM has been called a public health priority (APA, 2011; Zimmerman & Mercy, 2010). In 2010, approximately 3.3 million child abuse reports were made involving an

estimated 5.9 million children (USDHHS, 2012). The impact of CM continues far past the childhood years. Herbert Ward, director of St. Jude's Ranch for Children, once said, "Child abuse casts a shadow the length of a lifetime" (Thinkexist.com Quotations, 2013). Without treatment, children who are maltreated are at an increased risk to become adult clients with a myriad of mental health and substance abuse issues, who then are at an increased risk to perpetuate CM on their own children. To address this paramount, intergenerational, public health issue, researchers and practitioners must remain vigilant and continue to test parenting programs that address the parenting factors associated with CM.

Though the attachment field has made substantial progress over the past 20 years in developing and evaluating evidence-based attachment programs (Greenberg, 2005), the availability of effective group based attachment programs has lagged. Given the well- documented importance of attachment security for healthy long-term developmental outcomes for children, having attachment-based parenting programs that are manualized with easy-to-use formats is critical for broad dissemination (Greenberg, 2005). It is also critical that researchers examine attachment based programs under "real world conditions" (Greenberg, 2005, p. 337), so that we can understand how these programs work for high-risk parent and child populations in community settings. The exploratory findings from this study suggest that COS-P has the potential to impact the parenting factors associated with CM in mothers at risk for CM, particularly parental discipline practices. The study further suggests that COS-P provides a supportive, encouraging parenting program that can help address both attachment and CM in an

accessible, easy-to-use, DVD format. Like the original Circle of Security intervention, COS-P is a promising parenting program for CM prevention.

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APPENDIX A

IRB APPROVAL DOCUMENT



THE UNIVERSITY of NORTH CAROLINA
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To: Christine Murray
Counsel and Ed Development
204 Ferguson Building

From: UNCG IRB

Authorized signature on behalf of IRB

Approval Date: 2/08/2013

Expiration Date of Approval: 2/07/2014

RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)

Submission Type: Initial

Expedited Category: 7.Surveys/interviews/focus groups,6.Voice/image research recordings

Study #: 13-0025

Study Title: The Impact of the Circle of Security - Parenting Intervention on Mothers in a Residential Substance Abuse Program:
An Action Research Study

This submission has been approved by the IRB for the period indicated. It has been determined that the risk involved in this research is no more than minimal.

Study Description:

The purpose of this study is to explore the impact of an attachment based parenting intervention on mothers in a residential substance abuse treatment program.

Study Specific Details:

- Your study is approved and is in compliance with federal regulations and UNCG IRB Policies. Please note that you will also need to remain in compliance with the university Access To and Data Retention Policy which can be found at http://policy.uncg.edu/research_data/.

Investigator's Responsibilities

Federal regulations require that all research be reviewed at least annually. It is the Principal Investigator's responsibility to submit for renewal and obtain approval before the expiration date. You may not continue any research activity beyond the expiration date without IRB approval. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.

Signed letters, along with stamped copies of consent forms and other recruitment materials will be scanned to you in a separate email. These consent forms must be used unless the IRB has given you approval to waive this requirement.

You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented (use the modification application available at <http://www.uncg.edu/orc/irb.htm>). Should any adverse event or unanticipated problem involving risks to subjects or others occur it must be reported immediately to the IRB using the "Unanticipated Problem/Event" form at the same website.

CC:
Gretta Horton
ORC, (ORI), Non-IRB Review Contact

APPENDIX B

PARENT ATTRIBUTION TEST

Parent Attribution Measure Child Interaction Survey

In this questionnaire, we want to know how important you believe different factors might be as potential causes of successful and unsuccessful interaction with children. We are interested in discovering the way people think about children--there are no right or wrong answers.

Example: If you were teaching a child an outdoor game and he or she caught on very quickly, how important do you believe these possible causes would be?

- | | Not at all
important | | | | | | Very
important |
|--|--|---|---|---|---|---|-------------------|
| a. how good he or she is in sports in general. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | (Place a circle around a number. Pick one of the bigger numbers if you think this factor is important, and a smaller number if you think it is not important). | | | | | | |
| b. how good a teacher you are. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c. how easy the game is. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Answer the following questions by making ratings in the same way as shown above.

1. SUPPOSE YOU TOOK CARE OF A NEIGHBOR'S CHILD ONE AFTERNOON, AND THE TWO OF YOU HAD A REALLY GOOD TIME TOGETHER. HOW IMPORTANT DO YOU BELIEVE THE FOLLOWING FACTORS WOULD BE AS REASONS FOR SUCH AN EXPERIENCE?

a. whether or not this was a "good day" for the child, e.g., whether there was a TV show s/he particularly wanted to see (or some other special thing to do).	1	2	3	4	5	6	7
d. how lucky you were in just having everything work out well.	1	2	3	4	5	6	7
e. how much the child enjoys being with adults.	1	2	3	4	5	6	7
f. how pleasant a disposition the child had.	1	2	3	4	5	6	7
g. how well the neighbor had set things up for you in advance.	1	2	3	4	5	6	7
h. whether the child was rested.	1	2	3	4	5	6	7

Survey continues on the next page

The next question asks about BAD experiences with children. Reasons for good interactions are not necessarily the same as those for unsuccessful ones. So please think about this situation without regard for the way you answered the first question.

2. SUPPOSE YOU TOOK CARE OF A NEIGHBOR'S CHILD ONE AFTERNOON, AND THE TWO OF YOU DID NOT GET ALONG WELL. HOW IMPORTANT DO YOU BELIEVE THE FOLLOWING FACTORS WOULD BE AS POSSIBLE REASONS FOR SUCH AN EXPERIENCE?

	Not at all important					Very important	
	1	2	3	4	5	6	7
b. how unpleasant a mood the child had.							
c. whether the child was tired or not feeling well.	1	2	3	4	5	6	7
d. whether or not you really enjoy children that much.	1	2	3	4	5	6	7
f. whether or not this was a bad day for the child, e.g., whether there was nothing good on TV, whether it was raining and he or she couldn't go outside.	1	2	3	4	5	6	7
i. whether you used the wrong approach for this child.	1	2	3	4	5	6	7
j. the extent to which the child was stubborn and resisted your efforts.	1	2	3	4	5	6	7
k. how you get along with children in general.	1	2	3	4	5	6	7
m. what kind of mood you were in that day.	1	2	3	4	5	6	7
q. how hungry the child was.	1	2	3	4	5	6	7
t. how little effort the child made to take an interest in what you said or did.	1	2	3	4	5	6	7
u. the extent to which you were not feeling well that day.	1	2	3	4	5	6	7
z. whether or not this was a bad day for you in general.	1	2	3	4	5	6	7

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

1. ____ When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. ____ I keep my emotions to myself.
3. ____ When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. ____ When I am feeling *positive* emotions, I am careful not to express them.
5. ____ When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. ____ I control my emotions by *not expressing them*.
7. ____ When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation.
8. ____ I control my emotions by *changing the way I think* about the situation I'm in.
9. ____ When I am feeling *negative* emotions, I make sure not to express them.
10. ____ When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation.

APPENDIX D

THE PARENTING SCALE

At one time or another, all children misbehave or do things that could be harmful, that are “wrong,” or that parents don’t like. Examples include:

<i>hitting someone</i>	<i>whining</i>	<i>throwing food</i>
<i>coming home late</i>	<i>forgetting homework</i>	<i>not picking up toys</i>
<i>lying</i>	<i>having a tantrum</i>	<i>refusing to go to bed</i>
<i>wanting a cookie before dinner</i>	<i>arguing back</i>	<i>running into the street</i>

Parents have many different ways or styles of dealing with these types of problems. Below are items that describe some styles of parenting

For each item, fill in the circle that best describes your style of parenting with your youngest child during the past two months.

Age of your youngest child _____

SAMPLE ITEM:

At meal time . . .

I let my child decide how much to eat

○—○——○—○—○—○

I decide how much my child eats.

1. When my child misbehaves . . .

I do something right away.

○—○—○—○—○—○—○

I do something about it later.

2. Before I do something about a problem . . .

I give my child several reminders or warnings.

○—○—○—○—○—○—○

I use only one reminder or warning.

3. When I’m upset or under stress . . .

I am picky and on my child’s back.

○—○—○—○—○—○—○

I am no more picky than usual.

4. When I tell my child not to do something . . .

I say very little.

☐—☐—☐—☐—☐—☐—☐

I say a lot.

5. When my child pesters me . . .

I can ignore the pestering.

☐—☐—☐—☐—☐—☐—☐

I can't ignore the pestering.

6. When my child misbehaves . . .

I usually get into a long argument with my child.

☐—☐—☐—☐—☐—☐—☐

I don't get into an argument.

7. I threaten to do things that . . .

I am sure I can carry out.

☐—☐—☐—☐—☐—☐—☐

I know I won't actually do.

8. I am the kind of parent that . . .

sets limits on what my child is allowed to do.

☐—☐—☐—☐—☐—☐—☐

lets my child do whatever he or she wants.

9. When my child misbehaves . . .

I give my child a long lecture.

☐—☐—☐—☐—☐—☐—☐

I keep my talks short and to the point.

10. When my child misbehaves . . .

I raise my voice or yell.

☐—☐—☐—☐—☐—☐—☐

I speak to my child calmly.

11. If saying no doesn't work right away . . .

I take some other kind of action.

☐—☐—☐—☐—☐—☐—☐

I keep talking and try to get through to my child.

12. When I want my child to stop doing something . . .

I firmly tell my child to stop.

☐—☐—☐—☐—☐—☐—☐

I coax or beg my child to stop.

13. When my child is out of my sight . . .

I often don't know what my child is doing.

☐—☐—☐—☐—☐—☐—☐

I always have a good idea of what my child is doing.

14. After there's been a problem with my child . . .

I often hold a grudge.

☐—☐—☐—☐—☐—☐—☐

things get back to normal quickly.

15. When we're not at home . . .

I handle my child the way I do at home.

☐—☐—☐—☐—☐—☐—☐

I let my child get away with a lot more.

16. When my child does something I don't like . . .

I do something about it every time it happens.

☐—☐—☐—☐—☐—☐—☐

I often let it go.

17. When there's a problem with my child . . .

things build up and I do things that I don't mean to do.

☐—☐—☐—☐—☐—☐—☐

things don't get out of hand.

18. When my child misbehaves, I spank, slap, grab, or hit my child . . .

never or rarely.

☐—☐—☐—☐—☐—☐—☐

most of the time.

19. When my child doesn't do what I ask . . .

I often let it go or end up
doing it myself.

☐—☐—☐—☐—☐—☐—☐

I take some other action.

20. When I give a fair threat or warning . . .

I often don't carry it out.

☐—☐—☐—☐—☐—☐—☐

I always do what I said.

21. If saying no doesn't work . . .

I take some other kind of
action.

☐—☐—☐—☐—☐—☐—☐

I offer my child something
nice so s/he will behave.

22. When my child misbehaves . . .

I handle it without getting
upset.

☐—☐—☐—☐—☐—☐—☐

I get so frustrated/angry
that my child can see I'm
upset.

23. When my child misbehaves . . .

I make my child tell me why
he or she did it.

☐—☐—☐—☐—☐—☐—☐

I say "No" or take some
other action.

24. If my child misbehaves and then acts sorry . . .

I handle the problem like I
usually would.

☐—☐—☐—☐—☐—☐—☐

I let it go that time.

25. When my child misbehaves . . .

I rarely use bad language or
curse.

☐—☐—☐—☐—☐—☐—☐

I almost always use bad
language.

26. When I say my child can't do something . . .

I let my child do it anyway.

☐—☐—☐—☐—☐—☐—☐

I stick to what I said.

27. When I have to handle a problem . . .

I tell my child I'm sorry about it.

☐—☐—☐—☐—☐—☐—☐

I don't say I'm sorry.

28. When my child does something I don't like, I insult my child, say mean things, or call my child names . . .

never or rarely.

☐—☐—☐—☐—☐—☐—☐

most of the time.

29. If my child talks back or complains when I handle a problem . . .

I ignore the complaining and stick to what I said.

☐—☐—☐—☐—☐—☐—☐

I give my child a talk about not complaining.

30. If my child gets upset when I say "No," . . .

I back down and give in to my child.

☐—☐—☐—☐—☐—☐—☐

I stick to what I said.

APPENDIX E**COS-P WEEKLY CHECK IN QUESTIONS****End of COS-P Session Check-In****To take place the last 5–10 minutes of group.**

What did you like about this session? (content, DVD, application to mothers in SA treatment?)

What would you change about this session? (content, dvd, application to mothers in SA treatment?)

APPENDIX F
FOCUS GROUP QUESTIONS

Circle of Security Parenting

Post Intervention Focus Group

Focus group leader: “Thank you so much for participating in the Circle of Security-Parenting[®] program. As far as we know, this program has not been used in a residential program, so we are interested in getting your feedback. We have a few questions for the group. Evette has left the room so you may feel free to criticize or praise the program without any concern. This group is being audio recorded, as discussed when you signed up for this study. If you have changed your mind about participating in the focus group, you may leave at any time. If you chose to continue in the focus group and have attended at least 7 out of 8 of the intervention sessions and completed the pre- and post-measures, you will be paid a \$10 Wal-Mart gift card at the end of this focus group.

To get us started, I will ask a broad question about the program. At first, I would like to go around the group and ask everyone to give an answer. If you have more to say or have forgotten something you want to mention, feel free to jump in the conversation after we’ve heard from everyone the first time.”

1. Did the Circle of Security-Parenting program impact your parenting? If yes, how?
2. Did the Circle of Security-Parenting program impact your emotions? If yes, how?

3. Did the Circle of Security-Parenting program impact your thoughts about why your child or children behave the way they do? If yes, how?
4. Did the Circle of Security-Parenting program impact the way you discipline your child/children? If yes, how?
5. What do you feel are the strengths of the Circle of Security-Parenting program?
6. What do you feel are the weaknesses of the Circle of Security-Parenting program?
7. Do you have any other comments about the Circle of Security-Parenting program that we haven't discussed already?

Thank you for your participation!

APPENDIX G

PATIENT ADMISSION EVALUATION

I. Demographic Information

1. Address _____

 City County State Zip

2. Phone _____ Home
 _____ Other (specify)

4a. In the past 3 months, where did you live most of the time?

- | | |
|--|--|
| <input type="checkbox"/> Homeless | <input type="checkbox"/> Other |
| <input type="checkbox"/> Temporary Housing | b. If homeless, please specify your living situation most of the time in the past 3 months |
| <input type="checkbox"/> Private/Permanent residence | |
| <input type="checkbox"/> Residential Program | <input type="checkbox"/> Sheltered (homeless shelter) |
| <input type="checkbox"/> Facility Institution | <input type="checkbox"/> Unsheltered (on the street, in car, camp) |

4b. Patient speaks English? _____ Yes _____ No

6a. Insurance: (Check one)

- ☐ Private Insurance /Health Plan
- ☐ No Coverage (includes Medicaid pending)
- ☐ Medicaid (pink)
- ☐ Medicaid (blue)
- ☐ Medicare
- ☐ Health Choice
- ☐ TRICARE/Military Cov
- ☐ Other _____

7. Race/ethnicity

- Hispanic, Latino, or Spanish origin ☐ Yes ☐ No
- | | |
|--|---|
| <input type="checkbox"/> African American | <input type="checkbox"/> Alaska Native |
| <input type="checkbox"/> White/Anglo/Caucasian | <input type="checkbox"/> Asian |
| <input type="checkbox"/> Multi Racial | <input type="checkbox"/> Pacific Islander |
| <input type="checkbox"/> American Indian | <input type="checkbox"/> Other |

6b. Patient has primary health care provider
☐ Yes ☐ No
 (If pregnant: Debbie Stanford is her primary provider)

6c. If no, then patient referred to:

- ☐ UNC
- ☐ Piedmont Health
- ☐ Local health dept.
- ☐ Other _____

4e. In the past year, how many times have you moved residences?

b. What was the reason for your most recent move? (mark all that apply)

- ☐ Move closer to family and friends
- ☐ Moved to a nicer or safer location
- ☐ Needed more supervision or supports
- ☐ Moved to a location with more independence, better access to activities and/or services
- ☐ Could no longer afford previous location or evicted

5. Marital Status: (Check one)

- ☐ Married (and living together)
- ☐ Living with a Partner
- ☐ Single (never married)
- ☐ Separated
- ☐ Divorced
- ☐ Widowed

8a. Pregnancy Status: (Check one)

- ☐ 1- Pregnant
 - ☐ 2- Not pregnant
- If pregnant, when is your due date? _____
 If due date unknown how many wks pregnant are you? _____
 Have you had a prenatal care visit that includes a physical exam? _____ Yes _____ No
- If not pregnant : (Check one)
- ☐ 1-<1yr postpartum
 - ☐ 2->1yr postpartum
 - ☐ 3-Never pregnant/Don't Know

10a. Mandated Treatments:

Was your admission to treatment mandated : ☐ Yes ☐ No
Mandated by: ☐ DSS ☐ Courts ☐ Other , specify _____

II. Financial and Vocational

11a. What is the highest grade of school you have completed? (Check one)

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ GED ☐ Tech School
☐ 13 ☐ 14 ☐ 2 Yr. College/assoc. degree ☐ 15 ☐ 16 ☐ Grad School-No degree ☐ Grad School-Degree

11b. Are you currently involved in an academic program (including GED) for credit of vocational training program? ☐ Yes ☐ No

12a. During the past 3 months, were you: (Check one)

<input type="checkbox"/> Employed Fulltime (35 hrs or more wkly)	<input type="checkbox"/> Homemaker	<input type="checkbox"/> Retired
<input type="checkbox"/> Employed Part-time (Less than 35 hrs/wkly)	<input type="checkbox"/> Incarcerated	
<input type="checkbox"/> Unemployed (Seeking Work or on lay off from job)	<input type="checkbox"/> Chronic Medical condition which prevents employment	
<input type="checkbox"/> Not in labor force(Not Seeking Work)	<input type="checkbox"/> Institutionalized	
<input type="checkbox"/> Student	<input type="checkbox"/> None of the above	

12b. Are you receiving any of the following? (Check all that apply)

☐ TANF/ Work First ☐ Babylove (Maternity Care Coord.) ☐ Section 8 Housing If TANF/Work First, ask: TANF Application date: _____
☐ Food Stamps ☐ WIC ☐ None ☐ Other: _____ How many unpaid hours per week did you work? _____

12c. Family Income \$ _____ per: ☐ week, ☐ month, ☐ year (specify)

12d. Are you a veteran? yes _____ no _____ If yes, where did you serve? _____

13b. If not working, when and what was your last job? _____

14a. Are you able to get transportation for your clinic appointments and/or treatment? ☐ Yes ☐ No

If no, check that you offered the following options:

☐ DSS Transportation
☐ Taxi voucher
☐ Horizons Van
☐ Gas Voucher
☐ Chapel Hill Bus
☐ Easyrider
☐ Other _____

14b. Do you need childcare for you to participate in our services? ☐ Yes ☐ No

If yes, referred to: _____ Horizons childcare _____ Other _____

IV. Trauma History

34a. Do you feel you were physically abused (beaten or hurt) as a child or teenager? ☐ Yes ☐ No

If yes, tell me about this:

35a. Have you ever been forced or pressured to have sexual activities with anyone (including when you were a child)?
☐ Yes ☐ No

35b. How old were you when this first happened? _____ years

35c. How is this person related to you? (Check one)

☐ Husband ☐ Partner ☐ Father

☐ Stepfather ☐ Mother ☐ Uncle

☐ Other family member: _____

☐ Other, specify: _____

36a. Have you been forced to have sexual activities with anyone else? ☐ Yes ☐ No

36b. If yes, how is/are this person/these people related to you?
(Check all that apply)

☐ Husband ☐ Partner ☐ Father

☐ Stepfather ☐ Mother ☐ Uncle

☐ Other family member: _____

☐ Other, specify: _____

38a. Have you been in other relationships in the past where a partner made you feel unsafe at times?
(pushed you, hurt you, or who you worried might hurt you) ☐ Yes ☐ No

38b. How many past relationships have you been in where this was a problem? # _____

38d. In the past 3 months, how often have you been hit, kicked, slapped or otherwise physically hurt ?

☐ Never

☐ A few times

☐ More than a few times

☐ Deferred

If so, by whom? _____

38e. In the past 3 months, how often have you hit, kicked, slapped or otherwise physically hurt someone?

☐ Never

☐ A few times

☐ More than a few times

☐ Deferred

If so, who? _____

39. Has your current partner ever made you feel unsafe

(pushed, hit or who you worried might hurt you)? If no, or N/A, please skip to next section (Medical Info) ☐ Yes ☐ No ☐ N/A ☐ Refused

40a. How does he (or did) he make you feel unsafe? Tell me about it.

40b. How often does he (or did he) threaten or hurt you? ☐ Daily ☐ Several times a week ☐ Once a week

☐ Several times a month ☐ Once a month

☐ Other: _____

APPENDIX H

FACILITATOR CIRCLE OF SECURITY CERTIFICATE



APPENDIX I

FACILITATOR WEEKLY REFLECTION NOTE

COS-P Facilitator Reflection

Group session (circle): 1 2 3 4 5 6 7 8
 Date:

1. What went well today?

2. What needs improvement?

3. How do you feel about the session and its impact on the mothers?

APPENDIX J

STAFF EVALUATION SURVEY

Circle of Security-Parenting Program Staff Evaluation Survey

No names please.

Date:

Circle type of staff position (circle as many are applicable):

RA	Individual Therapist	Group Therapist	Case Manager
	Director Management	Childcare staff	Psychiatrist

Other: _____

Thank you so much for agreeing to participate in the evaluation study of the Circle of Security Parenting program. As you know, some of our residents have participated in a new parenting group called Circle of Security Parenting. *We are curious to find out if this intervention was brought up in any discussions with our residents or had any impact on your work with mothers in our program. If Circle of Security Parenting has not come up in your work with the mothers, that is fine to say also!*

Please take a few minutes to answer these questions and then return this form to Evette's box at the Horizon's office in Carrboro. (Feel free to use the back or another page if needed.)

1. What, if any, impact did the Circle of Security Parenting program have on your work with women in our program?

2. Can you give a specific example? (no mothers' names)

3. Overall, what do you think the impact of the Circle of Security Parenting program was on our program?

4. Feel free to comment further on the Circle of Security Parenting program?

Please return to Evette's Horizon's mailbox. As soon as all the results have been tabulated, we will present them to you! Thank you so much for helping!

APPENDIX K
PILOT QUESTIONNAIRE

After taking the questionnaire attached to this form, please read the following statements and circle the **one number** that best represents how you feel on a scale of 1–7.

For example, I like dogs. If you strongly agree, circle the 7.

Strongly Disagree—1----2----3----4----5----6----7----Strongly Agree

1. This questionnaire's directions were easy to understand:

Strongly Disagree—1----2----3----4----5----6----7----Strongly Agree

2. This questionnaire's questions were easy to understand:

Strongly Disagree—1----2----3----4----5----6----7----Strongly Agree

3. The words in this questionnaire were easy to read:

Strongly Disagree—1----2----3----4----5----6----7----Strongly Agree

4. If you rated any of the above statements with a 3 or below, please explain what was difficult.

5. Is there anything else you'd like us to know about this questionnaire to help us use it for mothers in treatment for substance abuse?

APPENDIX L

SOCIAL DESIRABILITY SCALE

Marlow-Crowne 1(10) (Strahan & Gerbasi, 1972)

*Directions: Please indicate whether each statement below is true for you **or** false for you. Please circle either the (T) for “True” **or** the (F) for “False.”*

- | | | |
|--|---|---|
| 1. I'm always willing to admit it when I make a mistake. | T | F |
| 2. I always try to practice what I preach. | T | F |
| 3. I never resent being asked to return a favor. | T | F |
| 4. I have never been irked when people expressed ideas very different from my own. | T | F |
| 5. I have never deliberately said something that hurt somebody's feelings. | T | F |
| 6. I like to gossip at times. | T | F |
| 7. There have been occasions when I took advantage of someone. | T | F |
| 8. I sometimes try to get even rather than forgive and forget. | T | F |
| 9. At times I have really insisted on having things my own way. | T | F |
| 10. There have been occasions when I felt like smashing things. | T | F |